

Public Utilities

FORTNIGHTLY



September 10, 1936

THIRD WORLD POWER CONFERENCE

By O. C. Merrill

❧

Electric Utilities Enter a New Era of Expansion

By W. Clarence Adams

❧

Taking a Look at the Record

By Luther R. Nash



PUBLIC UTILITIES REPORTS, INC.
PUBLISHERS



Promote Silex glass coffee maker sales to increase your load

Silex has tremendous load building possibilities. With its 550 watt rating, and with its constant use in homes, Silex has been rated by central stations as their No. 1 load builder among table appliances.

The Silex advertising campaign for this fall will be more high powered than ever. Tie your promotion in with this campaign and get your share of the increase.

Kitchen Range Models from \$2.95 to \$4.95.
Electric Table Models from \$4.95 to \$10.95.
Buffet Service Models from \$19.95 to \$29.95.

Write today for plans to help you increase your connected load. We can, and will, support you through our nationwide sales distributing organization.

SILEX
GLASS COFFEE MAKER

**THE SILEX CO., DEPT. 85
HARTFORD, CONNECTICUT**

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Here is the Truth about SIDEWALL FAILURES IN TRUCK TIRES

Are your tire bills too high? Do nearly new tires go bad long before the tread is worn? If yours is a common experience. Every month, thousands of dollars in unused mileage roll on to scrap piles. There's a reason—and a remedy. Think of the forces that tear at tires. With every start, tires get a thrust—with every stop, a yank. And always—as a tire rolls—heavy loads flex the casing—several hundred times a minute. Every mile, every minute, these forces batter away at your tires.

Why Tires Blow Out

Do you wonder ordinary tires can't stand the gaff? They can't take it because they lack strength

where they need it most—in the sidewall! Right there is the weak spot of ordinary tires. That's the point where stresses concentrate. That's the part of the tire that lets go—in eight out of ten premature failures. Actual figures prove that 80% of these tire failures occur in the sidewall "Failure Zone."

Goodrich engineers licked this greatest cause



of premature tire failure at the source. They did

it with Triple Protection—built into the sidewall of every Goodrich Silvertown.

More For Your Money

Why not get more for your tire dollars, starting right now? Ask the man in charge of tire purchases to check the Goodrich story. Have him run tests. Investigate every claim. We think you will be surprised at what Goodrich Silvertowns and Goodrich application service can do for you.

If you prefer, write us direct for information on what we are doing for other companies. Write your name and address in the margin below. Tear off and mail today.

Write, wire or 'phone

Department T-123

The B. F. Goodrich Company, Akron, Ohio ★

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Public Utilities Fortnightly



VOLUME XVIII

September 10, 1936

NUMBER 6

Contents of previous issues of PUBLIC UTILITIES FORTNIGHTLY can be found by consulting the "Industrial Arts Index" in your library.

Utilities Almanack	273
Unharnessed Power	(Frontispiece) 274
Third World Power Conference	O. C. Merrill 275
Electric Utilities Enter a New Era of Expansion	W. Clarence Adams 284
Taking a Look at the Record	Luther R. Nash 293
Financial News and Comment	Owen Ely 301
What Others Think	307
Excerpts from the Hearings on the Proposed Control of the Mississippi Valley Flood Waters	
The March of Events	317
The Latest Utility Rulings	325
Public Utilities Reports	331
Titles and Index	332
<i>Advertising Section</i>	
Pages with the Editors	6
In This Issue	10
Remarkable Remarks	12
Index	82, 84

P This magazine is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.

PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

Publication Office WILDER BUILDING, ROCHESTER, N. Y.
Executive, Editorial, and Advertising Offices MUNSEY BUILDING, WASHINGTON, D. C.

PUBLIC UTILITIES FORTNIGHTLY, a magazine dealing with the problems of utility regulation and allied topics, including also decisions of the regulatory commissions and courts, reprinted from *Public Utilities Reports, New Series*, such reports being supported in part by those conducting public utility service, manufacturers, bankers, accountants, and other users. Entered as second-class matter April 29, 1915, at the Post Office at Rochester, N. Y., under the Act of March 3, 1879; copyrighted, 1936, by Public Utilities Reports, Inc. Printed in U.S.A.
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(For greater protection and increase in workmen's efficiency)



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Pages with the Editors

WITH the foregathering of delegates from all over the world in Washington, D. C., for the Third World Power Conference, it is eminently fitting that we should, in this issue, present an article concerning the background, purposes, and program of this truly remarkable convocation.

We are especially privileged in having such an article (beginning page 275) from the pen of none other than the director of the conference, Hon. Oscar Charles Merrill. We could tell you a great deal about the conference and the numerous interesting sidelights in connection with it, but we'll leave that for the director, himself. He is obviously qualified to do a much better job of it.

We prefer to tell you about the author, Mr. MERRILL. His name and fame are already known, of course, to probably every reader of PUBLIC UTILITIES FORTNIGHTLY. Some may recall him in his capacity of executive secretary of the Federal Power Commission from 1920 to 1929. Others may know of him in his capacity of a consulting engineer. But did you know, for example, that Mr. MERRILL is held, not only by his friends and associates, but by electrical engineers and power economists throughout the United States and in foreign countries, as being directly responsible for developing the policy under which 85 per cent of water powers in

the United States are under control of the Federal government.

He is a "blue-nose" Yank, this O. C. MERRILL—born back in 1874 in the little town of Manchester, Me.—the son of Josiah L. and Sarah Chace Merrill. He spend his early youth in the industrious and energetic manner of most New England youths in the land of Big Potatoes, in the frost-bitten valley of the Kennebec. Educationally, he first pursued the liberal arts, graduating with an A.B. from Bates College in 1899.

THEN he decided upon a scientific course of education at the famed Massachusetts Institute of Technology, from whence he graduated with a B.S. in 1905. He started his professional career as an instructor in civil engineering at the University of California. Shortly after, he entered the U. S. Forestry service as a district engineer (1909) rising to chief engineer (1914). In 1920, he was called to his post as executive secretary of the then newly created Federal Power Commission. In 1929, he returned to private practice and was appointed in that year to the honorary post of chairman of the American Committee of the World Power Conference.

OVER fifteen years ago, American explorers visiting Laysan Island, in the South



O. C. MERRILL

The Director of the Third World Power Conference.

(SEE PAGE 275)



W. CLARENCE ADAMS

"Are the electric utilities ready for expansion?"

(SEE PAGE 284)

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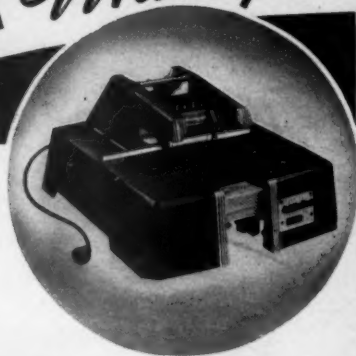
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"WE BOUGHT IT
FOR *One* PURPOSE

WE USE IT FOR *Many!*"



Unexpected Savings Produce extra dividends

Many companies discover new uses for Addressograph equipment as they become familiar with its possibilities. Study is needed to uncover all possible jobs, but as they are put on Addressograph, additional savings are easily made.

Addressograph is known for its ability to perform two important kinds of work. First, it builds sales on the *outside* by providing an economical means for sending messages to consumers and prospects. Second, it lowers operating expenses on the *inside* by serving *all* departments effectively. Addressograph does more than 100 office jobs 10 to 20 times faster than manual methods. Its *speed* dispatches timely letters

and bulletins . . . its *accuracy* reduces transcribing errors . . . its *legibility* prevents misinterpreting statistical data.

From the *new* Class 900 Portable Electric to the big class 3700 Automatic Form Printer, are Addressographs to serve every Public Utility need. It costs nothing to find out how these machines can serve *your* organization. Telephone books in principal cities list the number of the nearest Addressograph representative. Phone him, or write Addressograph Division, Addressograph-Multigraph Corporation, Cleveland, Ohio.

ADDRESSOGRAPH MORE THAN A NAME- WRITING MACHINE

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Pacific, left a pair of rabbits. The island was covered with heavy vegetation and was the feeding and roosting place for thousands of sea birds. There were no human beings on it. Recently, United States Navy officials on visiting Laysan were amazed to find it a desert, with scarcely a sign of vegetation. There were a few living rabbits left, but they were emaciated, and the bleached bones of millions of others told the story of their losing fight for existence when the island became overpopulated with them.

MORE recently—last May to be exact—the so-called McGowan committee reported to the British Parliament on the state of affairs concerning the electrical distribution systems in England. FORTNIGHTLY readers may recall, from a review of this report published in our August 13th issue, that the McGowan committee did not find British distribution properties as bad off as the Laysan rabbits, but it did find too many of them for the good of all of them—too many runty, odds-and-ends types that impair the quality of the service for the consumers and get in the way of each others' commercial expansion.

IN the next issue of PUBLIC UTILITIES FORTNIGHTLY, we will present a more comprehensive analysis of this interesting British document, written by CHARLES W. KELLOGG, president of the Edison Electric Institute. Mr. KELLOGG made his observation first-hand during the recent summer trip to England. With his own background of knowledge of American experience, he was in a position to appreciate fully the value of planned and coordinated experience in the electrical industries as contrasted with the somewhat Topsy-like development of distribution systems in Merry England.



Blackstone Studios

LUTHER R. NASH

A prominent utility executive looks at the record.

(SEE PAGE 293)

BUT while our British cousins are wrestling with the problem of consolidating piecemeal developments in the public interest, our own electric industry stands on the threshold of unparalleled expansion if economic recovery is accompanied by more moderation from the anti-utility reformists.

FORTUNATELY, our American electrical industry went through the era of necessary consolidation some years ago. It was during the rash Twenties, and some of the prices paid for properties were pretty high. When the depression came, some American investors lost money when overoptimistic consolidating schemes failed to weather economic stress. But, by and large, the problem that England has before her we have behind us. Therefore, the American electric industry is ready to go forward in the new era of expansion without having to suffer the growing pains that the cautious Britains may have to undergo.

In this issue (beginning page 284), we present an article describing the future of expansion that lies before the industry. There are a few "ifs," and not a few "whens." However, the way seems to be open, even if clouds are not all out of the sky.

W. CLARENCE ADAMS, author of this article, is a magazine writer and newspaper correspondent who contributed some 200 articles to various publications in the last six years. He is at present correspondent for newspapers in St. Louis, Kansas City, Boston, and Chicago, and attracted considerable attention to his work in the spring of 1935 when he reported the share croppers' revolt or tenants' disturbance in eastern Arkansas.

ALSO in this issue (beginning page 293), we are pleased to present an article by LUTHER R. NASH, who has gained distinction as much by his scholarly volumes on various phases of public utility economics as by his own record as a successful utility official and executive. Mr. NASH was born in Connecticut in 1871, graduated from the Massachusetts Institute of Technology in 1894, and received his S.M. degree from Harvard as of 1898. Since 1895 he has been connected with Stone and Webster. For the past few years he has been vice president of Stone and Webster Engineering Corporation in charge of appraisals and rate investigations.

AMONG the important decisions reprinted from *Public Utilities Reports* in the back of this number, may be found the following:

THE New York statutory provision for temporary rate reduction has been upheld. (See page 337.)

THE next number of this magazine will be out September 24th.

The Editors

HOW CENTRAL ILLINOIS GAS AND ELECTRIC CO. HANDLES APPLICATIONS AND SERVICE ORDERS

in 1/4 the usual time

WHETHER he phones or comes in, Central Illinois Gas & Electric Company never keeps a customer waiting. In actual experience, their Remington Rand Customer Service Record helps them handle applications to connect or disconnect service one-quarter the usual time. Errors are reduced at least 98%. Apart from the ever-increasing necessity to keep customers happy, this simplified Kardex record brings any company many other important benefits. So completely does this record eliminate duplication, many utilities have

found it replaces as many as fourteen separate records and files. Writing and filing of applications is eliminated entirely. Positive control is provided over inactive meters, meter-testing, and non-payment cut-offs. Clerical expense is reduced all along the line.

Pays for itself out of direct savings

In most cases inside of one year the direct, tangible savings are sufficient to pay the entire cost of installing the unique Customer Service Record. Remington Rand

maintains a staff of experienced professional supervisors to guarantee that your installation is complete and accurate in every detail. As a result, your installation costs are greatly reduced, your personnel expertly selected and trained, your operating procedure organized and manual prepared... all without disturbing your present routine.

When it costs nothing to get full details, why not investigate the Customer Service Record now. Simply phone your local Remington Rand office or write Remington Rand, Buffalo, New York.

OK...it's from Remington Rand

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In This Issue



In Feature Articles

Third World Power Conference, 275.
Program of power conference, 278.
Electric utilities enter upon new era of expansion, 284.
Attitude of utility executives toward rural expansion, 285.
Deposits and contributions for extensions, 288.
The Objective Rate Plan, 291.
Looking at the record of power charges, 293.
Question of overcapitalization, 295.
"Wasted hydroelectric power" in navigable streams, 297.
Municipal plant yardsticks, 298.

In Financial News

Finances of National Power & Light Company, 301.
"Beating the gun" on new security issues, 303.
June earnings reports, 304.
Effects of weather on electric costs and output, 306.
Midsummer dullness in security financing, 306.

In What Others Think

Excerpts from the hearings on the proposed control of the Mississippi Valley flood waters, 307.
Little waters v. big dams, 307.
Injunctions, 310.

Public v. private financing and taxes, 311.
Public v. private hydro development, 312.
Hydro development v. coal industry, 314.

In The Latest Utility Rulings

Reduction of telephone rates in Ohio, 325.
Accounting for fixed capital, 326.
Municipal power to prohibit gas dilution, 326.
Utility extensions where coöperatives will operate, 327.
Telephone extension in border-line territory, 327.
Bus leases equivalent to conditional sale, 328.
Financing costs in valuation, 328.
Deposit to secure residence phone when business phone service bills unpaid, 329.
Miscellaneous rulings, 330.

In The March of Events

Glossary published by Federal Power Commission, 317.
Water power study in the Philippines, 317.
Financing of Alaska line, 317.
Britain watching TVA, 317.
Union Station to be dining hall, 317.
Turning on power at Boulder dam, 317.
President talks with TVA heads, 318.
Conflict in Ontario natural gas industry, 318.
Forecast of seaway approval, 318.
News throughout the states, 318.

REPRINTS FROM PUBLIC UTILITIES REPORTS

Various regulatory rulings by courts and commissions reported in full text, pages 337-396, from 14 P.U.R.(N.S.)



New Heavy Duty a-c Circuit Breakers

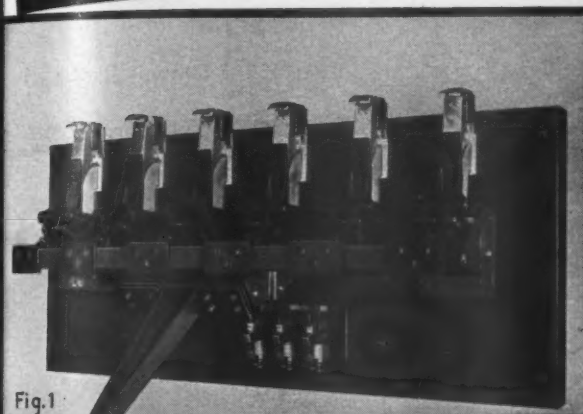


Fig. 1

ADJACENT SWITCH ELEMENTS
CARRY CURRENT OF
DIFFERENT PHASES

Arrangement of switch elements avoids large voltage drop caused by skin effect;
reduces localized heating;
raises safe carrying capacities;
simplifies connection with interlaced bus bars.

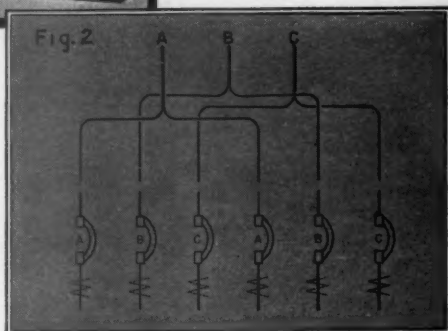
In new heavy duty a-c circuit breakers, developed and patented by I-T-E engineers, switch members carrying current of like phase are spaced far enough apart to minimize skin effect.

In the circuit breaker illustrated, the distance between switch members of like phase is that between bridges A and A; Fig. 2. Intervening space is safely utilized by switch members carrying phases B and C, since adjacent currents of different phase cause little trouble.

Unequal current distribution is avoided so that the temperature rise in contacts and bus bars is equalized. This makes possible a more economic use of copper. Inductive heating in nearby steel structure is greatly reduced.

The same advantages are to be gained when switch members of like phase are separated vertically.

The low reactance inherent in this type of construction is particularly advantageous in low voltage systems . . . for example in electric furnace installations.



In addition to showing one plan for locating and connecting switch members, this diagram indicates that bus bars may be separated and interposed in a like manner. The advantages of separating bus bars in this way, for as much of the run as possible, are well established.

Further information, either general or concerned with specific application for currents of the order of several thousand amperes, will be furnished by I-T-E engineers. Refer to Interposed Construction Type LG.

Offices in Principal Cities

I-T-E CIRCUIT BREAKER CO., PHILADELPHIA, PA.

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Remarkable Remarks

"There never was in the world two opinions alike."

—MONTAIGNE

HAROLD L. ICKES
Secretary of Interior.

"Other Boulder dams remain to be built."

FRANKLIN D. ROOSEVELT
President of the United States.

"Quoddy will be completed. I believe in Quoddy and I believe you do, too."

JOHN L. LEWIS
President, United Mine Workers of America.

"Labor is marching on! It is marching on industrially, it is marching on politically."

WILLIAM E. BORAH
United States Senator from Idaho.

"I don't want anybody outside of my state running the development of its resources."

GEORGE R. FARNUM
Boston, Mass.

"That the judiciary should be exempted from criticism is unthinkable in a free country."

FRANK J. HILGEMAN
Arizona candidate for Congress.

"The entire future of Arizona depends upon this cheap (Boulder dam) power for everybody."

ALFRED M. LANDON
Governor of Kansas.

"If America could tame the wilderness, shall we cry quits because in these modern days there are problems to face?"

CHARLES H. MEYER
Attorney.

"The speculator is actually a middleman between original seller and ultimate buyer. Speculation as such is not gambling."

WENDELL L. WILLKIE
President, The Commonwealth & Southern Corporation.

"The tax on the average automobile owner's use of gasoline exceeds his total electric bill, which electric bill in turn includes a large item of taxes."

CARTER GLASS
United States Senator from Virginia.

"The easiest thing in the world to do is to spend somebody else's money, and it must be a very pleasant thing, judging from the number of people who vote for it."

Burroughs

ELECTRIC CALCULATOR

FAST, ACCURATE FIGURING

FOR THESE JOBS

Proof of billing
Revenue and rate analysis
Balancing cash
Calculating material
requisitions
Labor and motor vehicle
distribution
Checking invoices
Extending payroll
Prorating administrative
reports
Preparing statistical
reports



Public Utility offices save time, reduce mental fatigue and assure accuracy on today's increased volume of calculating, by using Burroughs Electric Calculator. They find this machine extremely valuable on scores of jobs throughout the year.

Burroughs Electric Calculator is fast and easy to operate. Each key always registers its full value on the dials, because the motor does the work. There are many models and totaling capacities. Prices are surprisingly low. Investigate this machine to see how it speeds and simplifies figuring. Call the nearest Burroughs office for a complete demonstration.

BURROUGHS ADDING MACHINE COMPANY, DETROIT, MICHIGAN

**ADDING, ACCOUNTING, BILLING AND CALCULATING MACHINES
CASH REGISTERS • TYPEWRITERS • POSTURE CHAIRS • SUPPLIES**

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JOHN HAMILTON
National Republican Chairman.

"By his record it is clear that Governor Landon is fitted to carry on, and will carry on, the policy of reclamation and conservation that has long been traditional with the Republican party."

WILLIAM W. KEELER
Public Utilities Chairman, Central Labor Union.

"Labor is opposed to imposing two men's work on one man at any time. It is obvious that the operator of a one-man car will have to do 75 per cent more work than if he were on a two-man car."

FLOYD W. PARSONS
Editor, Gas Age-Record & Natural Gas.

"It is significant that the people who were pleading for help, now not only peremptorily call for bounties as their rightful claims, but imperiously demand that such a system shall be forever continued."

SIDNEY HILLMAN
President, Amalgamated Clothing Workers of America.

"There is no other answer in this age of technological inventions, of constant improvements and the introduction of new methods for efficient production in industry to solve the problem of unemployment but by reducing the work day and the work week."

RAYMOND MOLEY
Editor, Today.

"... the moment has come, or nearly come, when the case of business is going to get a mighty respectful and sympathetic hearing. Those of you who speak for business cannot afford to let that moment pass."

DR. HAROLD W. DODDS
President of Princeton University.

"As liberalism differs from the autocratic, anti-social state against which it reacted 150 years ago, so it must differ from any form of social organization which replaces individual responsibility by a state responsibility into which the individual is to be absorbed."

JOHN W. DAVIS
In an address to the New York State Bar Association.

"Surely the idea that nothing can go well unless government has a hand in it is one of the most insane delusions that has ever vexed the mind of man. As a matter of daily observation, the things that go best are precisely those with which government has least to do."

MAJOR GEORGE L. BERRY
President, Labor's Non-Partisan League.

"It is being said rather generally, and I accept this as a fact, that there will be a new political alignment before the 1940 election. I conceive it important that we who believe in progress in America and who are opposed to the return of the reaction that brought this country to the very extreme depths of despair should prepare ourselves to meet the inevitable and not again accept the crumbs from the table, but participate in the feast that has to do with the permanent establishment of a liberal party, if necessary, in the United States in 1940."

NOTABLE CE INSTALLATIONS

Highest Capacity Single Sectional Header Boiler

Burlington Station, Public Service Electric & Gas Co. of New Jersey. Unit comprised of CE equipment as follows: sectional header boiler, air heater, water cooled furnace and pulverized fuel system; Elasco superheater. Has operated at rate of 625,000 lb per hr. Pressure, 730 lb. Total temperature, 850 F.

Highest Pressure Boilers in Commercial Operation in America

The Philip Carey Mfg. Co., Lockland, Ohio. Two units comprised of CE equipment as follows: special design boilers, air heaters, economizers, water cooled furnaces and pulverized fuel systems; Elasco superheaters. Capacity, 150,000 lb per hr. Pressure, 1840 lb. Total temperature 819 F.

Highest Pressure Boilers Having Welded Drum

Firestone Tire & Rubber Co., Akron, Ohio. Unit comprised of CE equipment as follows: sectional header boiler, economizer, air heater, water cooled furnace and pulverized fuel system; Elasco superheater. Capacity, 350,000 lb per hr. Pressure, 1400 lb. Total temperature, 780 F. Drum with $\frac{3}{4}$ in. shell fusion-welded at CE shops.

Highest Capacity Super Pressure Boiler

Ford Motor Co., Rouge Plant, Detroit, Mich. Eight CE units, the three last installed being high pressure units comprised of CE equipment as follows: bent tube boilers, air heaters, water cooled furnaces and pulverized fuel systems; Elasco superheaters and economizers. One unit, having capacity of 900,000 lb per hr, pressure, 1400 lb; temperature of 925 F. is the largest high pressure boiler in the world.

Highest Capacity Boilers

East River Station, New York Edison Co. Three units comprised of CE equipment as follows: bent tube boilers, air heaters, water cooled furnaces and pulverized fuel systems; Elasco superheaters. Have operated at rate of 1,270,000 lb of steam per hr. Pressure, 360 lb. Total temperature, 725 F.

Most Efficient Steam Station in the U. S.

Port Washington Station, The Milwaukee Electric Railway & Light Co. This station has but one boiler unit to serve its 80,000 kw turbine-generator. Unit is comprised of CE equipment as follows: bent tube boiler, air heater, water cooled furnace and pulverized fuel system. Capacity, 690,000 lb per hr. Pressure, 1380 lb. Total temperature, 880 F. Has established monthly record of less than 11,000 BTU per kw-hr.

Highest Capacity Stoker-Fired Boilers

Hudson Avenue Station, Brooklyn Edison Co. Eight units comprised of CE equipment as follows: bent tube boilers, economizers and water cooled furnaces; Elasco superheaters. Capacity per boiler, 330,000 lb per hr. Pressure, 500 lb. Total temperature, 755 F. Hudson Avenue is the world's largest power station.

Boiler with World's Record for Sustained Output

Kip's Bay Station, New York Steam Corp. Five units comprised of CE equipment as follows: bent tube boilers, air heaters, water cooled furnaces and pulverized fuel systems. One of these boilers has averaged 805,000 lb of steam per hr for a full month.

RECENT CE ORDERS that indicate TRENDS in CENTRAL STATION PRACTICE

*APPALACHIAN ELECTRIC POWER CO., Logan, W. Va.

One unit: capacity—1,000,000 lb; design pressure—1425 lb; total temperature—925 F

*CONNECTICUT LIGHT & POWER CO., Montville Station, Waterbury, Conn.

Two units: capacity—130,000 lb each; design pressure—725 lb; total temperature—825 F

*DETROIT EDISON CO., Conners Creek Station

Two units: capacity—302,000 lb each; design pressure—710 lb; total temperature—850 F

Six similar units have been purchased, four of which are installed and operating

*FORD MOTOR COMPANY OF CANADA, LTD., East Windsor, Ont.

Two units: capacity—200,000 lb each; design pressure—900 lb; total temperature—820 F

*KANSAS CITY POWER & LIGHT CO., Northeast Station

One unit: capacity—300,000 lb; design pressure—1400 lb; total temperature—815 F

*MISSOURI POWER & LIGHT CO., Jefferson City, Mo.

One unit: capacity—100,000 lb; design pressure—900 lb; total temperature—825 F

*NEBRASKA POWER CO., Omaha Steam Station

One unit: capacity—275,000 lb; design pressure—1350 lb; total temperature—910 F

*NEW YORK EDISON CO., Waterside No. 2 Plant

Two units: capacity—500,000 lb each; design pressure—1400 lb; total temperature—900 F

*ROCHESTER GAS & ELECTRIC CORP., Station 2

One unit: capacity—250,000 lb; design pressure—750 lb; total temperature—750 F

*UNITED LIGHT & POWER ENGINEERING & CONSTRUCTION CO., Riverside Station, Davenport, Iowa

One unit: capacity—225,000 lb; design pressure—900 lb; total temperature—825 F

*UTAH POWER & LIGHT CO., Provo Steam Electric Station

One unit: capacity—200,000 lb; design pressure—450 lb; total temperature—700 F

*VIRGINIA ELECTRIC & POWER CO., 12th St. Station, Richmond, Va.

One unit: capacity—450,000 lb; design pressure—925 lb; total temperature—835 F

*VIRGINIA PUBLIC SERVICE CO., Alexandria, Va.

One unit: capacity—80,000 lb; design pressure—725 lb; total temperature—750 F

*Complete CE units—boiler, furnace, firing and in most cases heat recovery equipment.



A-300b

COMBUSTION ENGINEERING COMPANY, INC.

200 Madison Avenue, New York

Canadian Associates, Combustion Engineering Corp., Ltd., Montreal

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Exide

BATTERIES

—serve utilities in many different ways

IN numerous ways Exide Batteries are serving the utilities of the country—the telephone companies, the railroads, transit, water, light and power companies, etc.

Yet this is natural. For coming into existence at a time when the use of electricity was still in its infancy, Exide Batteries ever since have been the logical choice of critical engineers wherever a dependable, low-cost source of auxiliary power has been necessary.

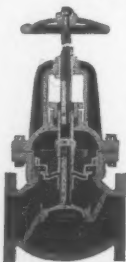
Therefore, in whatever service you use storage batteries, you will find that your judgment in selecting Exides is confirmed by thousands of other engineers.

THE ELECTRIC STORAGE BATTERY COMPANY

The World's Largest Manufacturers of Storage Batteries for Every Purpose
PHILADELPHIA

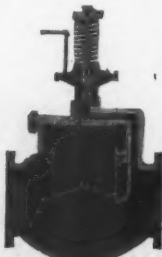
PLANT SAFETY

WITH GOLDEN-ANDERSON AUTOMATIC VALVES



Perfect water level control assured by the Altitude Control Valve . . . the most efficient and dependable automatic valve for tanks, standpipes and reservoirs.

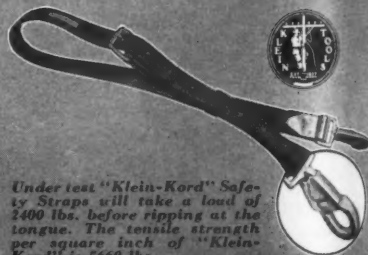
Safety Stop Non-Return valves protect lives and property, automatically, against live steam flows due to boiler ruptures or steam line breaks.



Ask for your copy of catalog for our complete line of automatic control valves

Golden-Anderson Valve Specialty Co.
1380 Fulton Bldg. Pittsburgh, Pa.

KLEIN-KORD

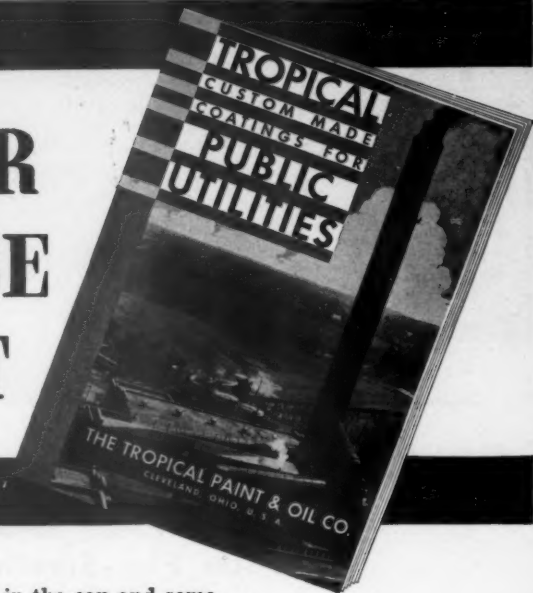


Under test "Klein-Kord" Safety Straps will take a load of 2400 lbs. before ripping at the tongue. The tensile strength per square inch of "Klein-Kord" is 5660 lbs.

The new "Klein-Kord" Safety Strap consists of six plies of heavy, close-woven, long fibre cotton laid in rubber and vulcanized, producing a strong, flexible strap for maximum strength and maximum service. Write for complete information on this newest development in safety for linemen.

Mathias KLEIN & Sons
Established 1857 Chicago, Ill.

SEND FOR THIS FREE BOOKLET



TWO paints may look alike in the can and sometimes even on the surface to which they are applied, yet they may be constituted of widely differing ingredients and intended for as widely different uses.

Lead is of great value in some paints yet in others it is a detriment. Similarly linseed oil is indispensable in some paints while in others china wood oil is far superior.

Paints must be selected according to the service they are expected to render, the conditions of their use and abuse and the surfaces to which they are to be applied.

More than thirty years of experience has taught us the right combination of pigments and liquids for custom built paints, each one designed for its particular field.

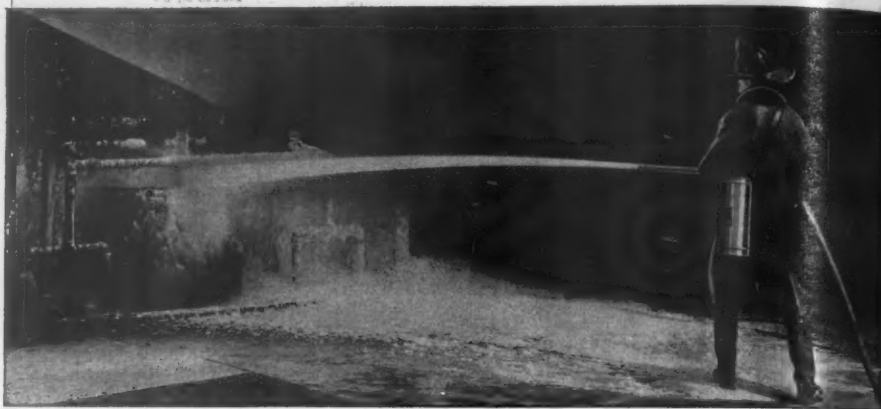
In the booklet offered above we describe maintenance paint products specially designed for and used by more than five hundred public utilities. Send for a copy. It may be the means of solving many troublesome painting problems.

ONE
OF
71
CUSTOM MADE
PRODUCTS

ROOFKOTER

A heavy black semi-liquid cement, asbestos reinforced. Designed to renew old roofs of all kinds. Spreads right over old roof forming seamless rubber-like surface. Send for illustrated booklet.

The Tropical Paint & Oil Company
100-1300 W. 70th Street
Cleveland, Ohio



A New Low-Cost Foam Tool!

Combines Water, Solution and Air To Form Fire-Smothering Foam

Public utilities are welcoming this revolutionary larger-capacity foam equipment for flammable liquid fires.

The specially designed PHOMAIRE Play Pipe connects to your hose line ($\frac{3}{4}$ " to $2\frac{1}{2}$ "). When the water is turned on, PHOMAIDE, a new foam-making solution carried in a Hip Pack, and air are automatically drawn into the water stream in the proper proportions to form foam.

There are no complicated preliminaries, no confusing adjustments, no moving parts. And only one man is required at the Play Pipe.

Less than 20 gallons of water at a pressure of 75 pounds or more are required per minute. This is the only efficient foam unit available for small lines. One gallon of Phomaide Solution makes 350 gallons of foam. 300 to 400 gallons per minute may be continuously produced by merely pouring additional solution into the Hip Pack.

This is NEWS. Without obligation, ask for descriptive literature, prices and a demonstration of the Phomaire Unit illustrated at the left. Don't wait! Mail your request now.



Get the Latest Foam Equipment

Phomaire and **Phomaide**
PLAY PIPE SOLUTION

developed, made and sold by

Pyrene Manufacturing Company
NEWARK, NEW JERSEY
ATLANTA KANSAS CITY CHICAGO SAN FRANCISCO

Although replete with features which insure faultless performance, the new Niagara *Two-Twenty* Gas Air-Conditioning Unit is certain to be renowned for the ability to quicken the urge to possess it. A noted designer has given to this appliance the dignity and grace of line that wins admirers of fine things for the home.

Walter L. Seelbach

W. L. Seelbach, Secretary-Treasurer

THE FOREST CITY FOUNDRIES COMPANY
CLEVELAND, OHIO

▶ Niagara Gas Fired Air-Conditioning Units will be displayed at the Association of Gas Appliances and Equipment Manufacturers Exposition at Atlantic City in October, 1936. ◀

NIAGARA

Two - Twenty

GAS AIR-CONDITIONING SYSTEMS

17 MILLION

HYGRADE LAMP BULBS



help you BUILD LOAD

Over seventeen million incandescent lamps, eighteen million radio tubes sold during 1935 in this country were Hygrade-Sylvania made. As the third largest manufacturer of incandescent lamps, and second largest of radio tubes, Hygrade-Sylvania products are efficiently consuming an important part of the total current sold by public utilities the country over. Many of these lamps and tubes are helping to build load on *your* lines.

When you are buying lamps (multiple or series) for street lighting, Hygrade-Sylvania Corporation deserves your consideration. Hygrade Lamps offer you the opportunity to make definite economies in street lighting costs without the slightest sacrifice of quality. Let us prove it with facts and figures!



SPECIALISTS IN
STREET LAMPS

Hygrade LAMP BULBS

© 1936, HYGRADE SYLVANIA CORP., Salem, Mass.
Makers of SYLVANIA Set-Tested RADIO TUBES

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The Mountain Comes To Mohammed



WE realize that most merchants do not have the opportunity of visiting the larger cities to see what is being done in the way of store front design and illumination. They do, however, have a keen desire to pattern their establishments after the style leaders. It is to satisfy this desire to follow the leaders of modern lighting and design that the Pittsburgh Plate Glass Company has started its Store Front Caravan on a nation-wide tour.

The Caravan carries twelve scale models showing the most advanced thought in store front styling and construction. Exact to the smallest detail, including exterior and interior lighting effects, these models will graphically demonstrate what can be done with old-fashioned fronts—and the resulting desire for modernization should be mutually beneficial to all those interested in selling lighting and store front improvement.

You will be advised in advance of the Caravan's arrival in your locality so that you will have ample time to arrange for your lighting prospects to view these models. Use the strong selling power of these scale models to assist in closing your sales. Literature minutely describing the lighting and structural features of these fronts will be available for distribution in these meetings.

For further information on the Caravan write the Pittsburgh Plate Glass Company at Pittsburgh.

CARRARA STRUCTURAL
GLASS

PITTCO STORE FRONT
METAL

PITTSBURGH MIRRORS

PITTCO
STORE FRONTS

glass...metal...paint

PRODUCTS OF

Paint. **PITTSBURGH.** *Glass*
PLATE GLASS COMPANY

PITTSBURGH PAINT
PRODUCTS

POLISHED PLATE
GLASS

TAPESTRY GLASS

Clear



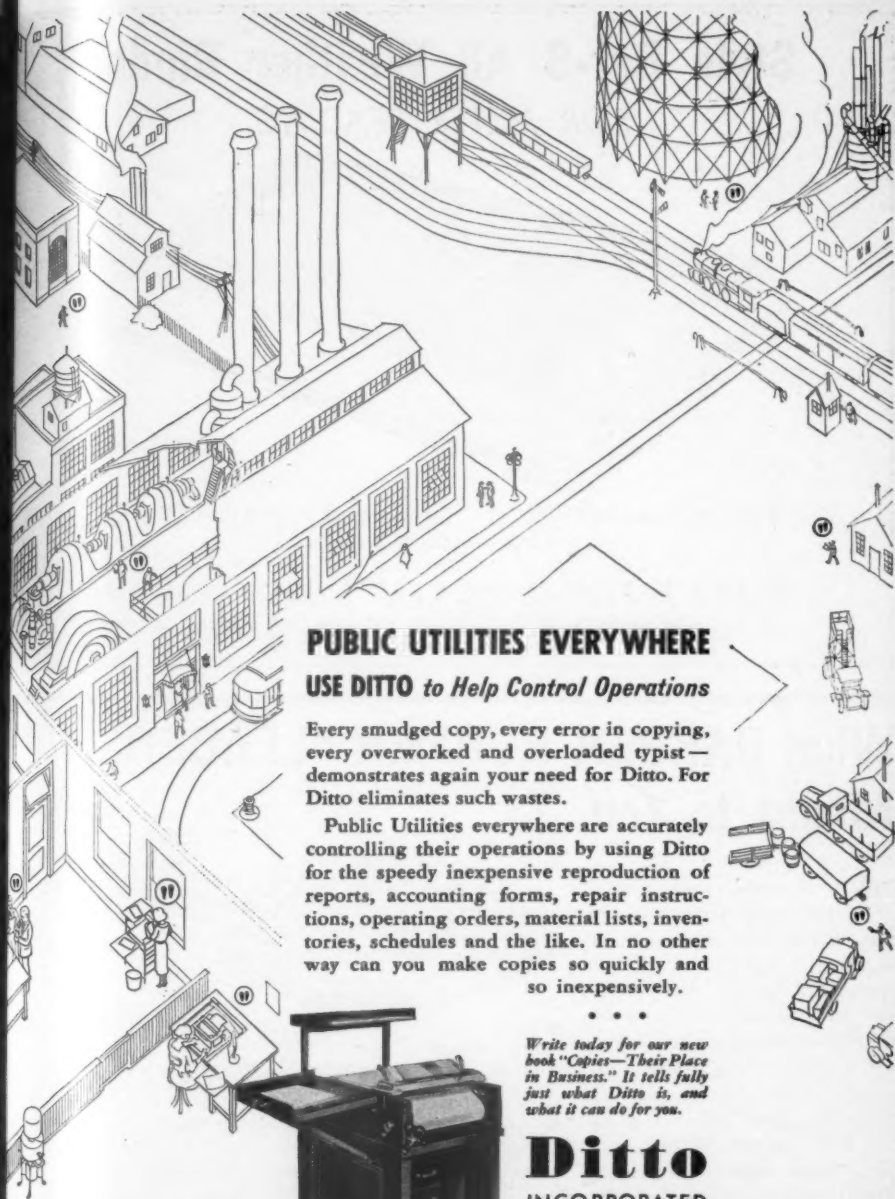
... FLAWLESS GLASS with BRASS BUSHING—the IDEAL insulator

When you "line up" with
HEMINGRAY you line up
these Advantages:

1. Brass bushed smooth threads for insulator pin.
2. Greater mechanical strength.
3. Sustained high dielectric strength.
4. Unaffected by sudden temperature changes.
5. Withstand maximum insulator pin expansion.
6. Never age or deteriorate.
7. Controlled uniformity of product.
8. All surfaces impervious to moisture.
9. Tougher— withstand rough handling.
10. Clear and flawless for easy inspection.

● This rugged new Hemingray Glass Insulator stands up better in all adverse weather conditions. It's brass bushed, providing perfect threads for uniform contact with pin—permitting quick, full-length insertion—and safeguarding against pin expansion. Its many all-around advantages clearly point to the brass bushed Hemingray as the ideal insulator for low-cost distribution service. All styles in clear and brown color. Ratings up to 15,000 volts. Write for descriptive bulletin . . . Owens-Illinois Glass Company, Hemingray Division, Muncie, Ind.

HEMINGRAY
Glass
INSULATORS



PUBLIC UTILITIES EVERYWHERE USE DITTO to Help Control Operations

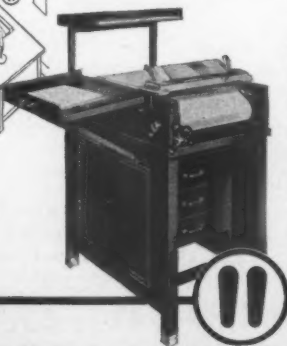
Every smudged copy, every error in copying, every overworked and overloaded typist—demonstrates again your need for Ditto. For Ditto eliminates such wastes.

Public Utilities everywhere are accurately controlling their operations by using Ditto for the speedy inexpensive reproduction of reports, accounting forms, repair instructions, operating orders, material lists, inventories, schedules and the like. In no other way can you make copies so quickly and so inexpensively.

Write today for our new book "Copies—Their Place in Business." It tells fully just what Ditto is, and what it can do for you.

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INCORPORATED
2284 W. HARRISON ST.
CHICAGO, ILLINOIS



Style Bar-S All Weather Binder FOR METER READING



Write us for circular and details. Send sample of your sheet for prices on any quantity of binders.

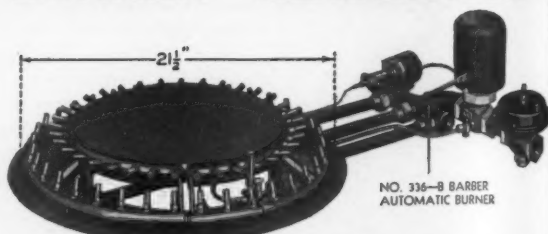
GRAND RAPIDS LOOSE LEAF BINDER COMPANY

10-16 Logan Street, S. W.

GRAND RAPIDS, MICH.

What BARBER BURNER "LEADERSHIP" Means to You

THE impressive record of Barber Automatic Gas Conversion Burners covers a period of over 18 years. You are interested in "clean" sales—with-out frequent servicing and removals. Your customers insist on trouble-free heating and sensible fuel cost. If you are financing time payment sales, you want collections that come in without difficulty. By unquestionably better performance, Barber Burners have won the support of discriminating Gas Appliance Manufacturers and alert Heating Dealers everywhere.



- "Tailor-made" to suit and fit the grate dimensions of round or oblong furnaces or boilers.
- Insures a "scrubbing" flame action on side walls of firebox, at the proper level, with 1900° Fahrenheit flame temperature. No fire brick or refractory elements needed.
- Furnished with Klixon or Baltimore Safety Pilot Control—positive and accurate. Listed in the A. G. A. Directory of Approved Appliances.

We supply Sales Literature, Specification Data Sheets and Practical Sales Assistance. Write for Latest Illustrated Catalog No. 37 and Revised Price List.

THE BARBER GAS BURNER COMPANY
3704 Superior Avenue, Cleveland, Ohio

THE BARBER GAS BURNER CO. of MICHIGAN
4475 Cass Avenue, Detroit, Michigan

BARBER *Automatic* JET GAS BURNERS

For Warm Air Furnaces, Steam and Hot Water Boilers and Other Appliances

You can do Better with Frigidaire

BECAUSE

FRIGIDAIRE

HELPS TO SOLVE UTILITY REFRIGERATION PROBLEMS

● Frigidaire's Public Utility Division, manned by experienced men thoroughly conversant with utility viewpoint and policies, has made exhaustive studies and comprehensive surveys of the utility refrigeration business.

As a result of these surveys we know, for example—

- The number of domestic meters that should be assigned to salesmen.
- The number of salesmen you can safely add and still protect the earnings of your present organization.
- The proper relation of supervision to manpower.
- The number of successful cam-

paigns that can be operated yearly.

- The influence of employee co-operation in selling appliances.

We have the answers to these and many other questions of specific importance to utility merchandising plans.

We will be happy to show you the vital facts discovered in our surveys, and built up through our wide experience with the nation's leading utilities. Also to present **PROOF** of the many important reasons why *You* can do *better* with Frigidaire.

FRIGIDAIRE CORPORATION · DAYTON, OHIO



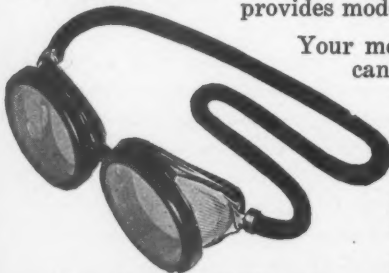
YOU SECURE MAXIMUM EYE PROTECTION



WITH SUPER-DREDNAUT DEEP CURVE LENSES

Super-Drednaut toric form or DEEP CURVE lenses are much stronger than any other form of lens made. They withstand much harder blows and impacts from steel chips and other dangerous flying particles, without breaking, than any other form of lens. And, the deep curve tends to prevent the broken glass from being driven into the eye, should the lens be broken under a most severe blow. The ADDED STRENGTH is in the DEEP CURVE.

Why not fortify your men against possible serious eye injuries by supplying them with Super-Drednaut Goggles fitted with DEEP CURVE lenses—the goggle that provides modern and MAXIMUM eye protection.



Super-Drednaut 50-S Goggles

Your men deserve the best eye protection that money can buy, and you can buy Super-Drednauts for but a few cents more than the ordinary kind.

Super-Drednaut Goggles are further equipped with our Non-Rubber Headband—the only one of its kind on the market that eliminates completely all the unpleasant annoyances so prevalent in the old style elastic headbands.

Send for a Super-Drednaut today and inspect these superior features.

THE SAFETY EQUIPMENT SERVICE COMPANY

Buell W. Nutt, President

::

::

1230 St. Clair Avenue, Cleveland, Ohio

Manufacturers of a Complete Line of Accident-Prevention Equipment

Questions

To Ask Of Every Door You Install

● CONVENIENCE

Will they operate easily and quickly in all kinds of weather . . . never sag or bind?

● SPACE ECONOMY

Do they require the minimum floor and wall space, storing themselves in unusable space above the opening when open?

● LOWER MAINTENANCE

Do they provide a clear opening . . . staying where they are put . . . out of the way of frequent damage from trucks and wind?

● DEPENDABILITY

Are they ruggedly built especially for standing years of hard, grueling industrial service?

● PROTECTION

Do they have the strength and design to give maximum protection against intrusion, weather and fire?

● SERVICE FACILITIES

Are they built by a reputable, nation-wide organization so that service is ALWAYS quickly and economically available?

● SUITABILITY

Have they been built especially to suit your requirements?

● GUARANTEE

Have they proved their high quality construction through service records covering almost a half-century?

You Get

ALL THESE
ADVANTAGES
WHEN YOU INSTALL

KINNEAR
Rolling Doors

Write for Complete Door Catalog

The KINNEAR MFG. CO.

2060-80 Fields Ave.

Columbus, Ohio

Please send us your catalog..describing Kinnear Rolling Doors for fire or service purposes—built in any size of wood or steel for old or new buildings—manually or electrically operated. A door for every need!

Name _____

Address _____

City _____ State _____

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Knee deep in trouble *When figures jam!*



MONROE

NEW GROUP AND GRAND
TOTAL ADDING-LISTING
MACHINE

Duplex registers, one for group totals and sub-totals, and one for grand totals and sub-totals; . . . automatic negative totals and sub-totals.

Every hour of every day business depends on figures; they flow through every office, factory, and store in a never-ceasing stream. Figures are the very life blood of business.

Ever since the first Monroe Adding-Calculator was made and sold twenty-four years ago, Monroe has played the major part in simplifying, speeding, and cutting the cost of producing accurate business figures.

Monroe offers 197 different models: calculators, adding-listing machines, bookkeeping machines, check writers and

signers. Each Monroe is compact and desk-size, each one has the famous "Velvet Touch" keyboard that takes the strain from figuring. Back of every Monroe machine is a nation-wide figure service, rendered to every Monroe user through 150 Monroe-owned branches from coast to coast.

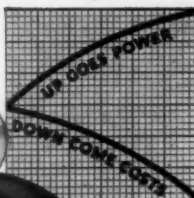
Try a "Velvet Touch" Monroe on your own figures. The nearest Monroe branch will arrange it without obligation. Write for free copy of booklet, "If Only I Could Work On Your Desk For An Hour." Monroe Calculating Machine Co., Inc., Orange New Jersey.

Visit the Monroe Exhibit — Accounting Section, American Gas Association, Atlantic City, October 26 — 30

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This is the GREATEST TRUCK YEAR IN ALL CHEVROLET HISTORY

Truck buyers prefer Chevrolets because they're outstanding in **PULLING POWER, OPERATING ECONOMY, LOW PRICE**



CHEVROLET
FOR ECONOMICAL
TRANSPORTATION

Thoughtful buyers of trucks and commercial cars are displaying overwhelming preference for Chevrolets. . . . Because they know that Chevrolet trucks have the **greatest pulling power** of any truck in the entire low-price range . . . because they know that Chevrolet trucks are the **most economical** for all-round duty . . . and because they know that these big, powerful Chevrolets sell in the **lowest price range**. . . . Visit your

nearest Chevrolet dealer today . . . ask for a thorough demonstration . . . and then choose Chevrolets — *the world's thriftiest high-powered trucks!*

CHEVROLET MOTOR CO., DETROIT, MICH.

NEW PERFECTED HYDRAULIC BRAKES • NEW FULL-TRIMMED DE LUXE CAB • NEW HIGH-COMPRESSION VALVE-IN-HEAD ENGINE • FULL-FLOATING REAR AXLE ON 1½-TON MODELS

GENERAL MOTORS INSTALLMENT PLAN — MONTHLY PAYMENTS TO SUIT YOUR PURSE

CHEVROLET TRUCKS

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OFFICE CONVENIENCES

For every situation that arises in the modern office, Dennison has a time or temper saver. Here is a list of some of them. Probably you are already using many, but perhaps there are some you have never tried.

Shipping Tags

Marking Tags

Clasp Envelopes

Security and Legal Envelopes

Address Labels

Parcel and Airmail Labels

Notarial Seals

Sealing Labels

Index Tabs

Gummed Reinforcements

Coin Wrappers and Bill Straps

Gummed Tapes

Duplicate Checks

Paper Fasteners and Staples

Sealing Wax

Glues and Mucilage

Invaluable aids in every well-ordered office . . . they help save precious time, smooth ruffled tempers, promote speedy and efficient work. Use more of them. We'll gladly send you a compact catalogue . . . just write us.

Dennison Manufacturing Co.

FRAMINGHAM

MASSACHUSETTS

GREATER VALUE

*Longer Life—
Lower Unit
Cost...*



BOTH QUALITY CELLS

"EVEREADY" "IGNITOR"—for years, the outstanding all-purpose dry cell. Long a universal favorite with railroads, it has stood the test of time in applications running all the way from heaviest rail car ignition work to light telephone service.

"EVEREADY" SPECIAL RAILROAD AND INDUSTRIAL CELL—with more costly materials and advanced manufacturing technique, the traditionally high quality cell is made even better. Retaining the high amperage necessary for satisfactory ignition service, it gives longer heavy service life and longer light service life—and of necessity, costs more.

WE MAKE THEM BOTH. YOU HAVE YOUR CHOICE

NATIONAL CARBON COMPANY, Inc.

RAILROAD DIVISION

30 North Michigan Ave.

Div. of Union Carbide & Carbon Corporation



Chicago, Ill.

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*During the last few years
there has been a decided*

SWING⁻ to RILEY STEAM GENERATING UNITS

**A Few of the Companies who have recently installed
Riley Boilers**

Lynn Gas & Electric Co. . . 205,000 lbs./hr.—430 lbs.—810° F.

Stone & Webster Engineering Corp., Engineers

W. Va. Pulp & Paper Co., Covington . . 375,000 lbs./hr.—600 lbs.—750°

Titanium Pigment Co. . . 125,000 lbs./hr.—448 lbs.—637° F.

Ford, Bacon & Davis, Engineers

Large Eastern Oil Refinery . . . 300,000 lbs./hr.—646 lbs.—740° F.

Standard Oil of California . . . 125,000 lbs./hr.—850 lbs.—760° F.

Stone & Webster Engineering Corp., Engineers

Pennsylvania Sugar Refining Co. . . . 350,000 lbs./hr.—400 lbs.—505°

Carbide & Carbon Chemicals Corp. . . . 80,000 lbs./hr.—600 lbs.—650°

W. Va. Pulp & Paper Co., Luke . . . 375,000 lbs./hr.—631 lbs.—700°

Savannah Sugar Refining Co. . . . 100,000 lbs./hr.—325 lbs.—620°

Kalamazoo Vegetable Parchment . . . 150,000 lbs./hr.—275 lbs.—650°

Prof. C. F. Hirschfeld, Consulting Engineer

Forstmann Woolen Co. . . . 80,000 lbs./hr.—450 lbs.—612° F.

General Aniline Co. . . . 65,000 lbs./hr.—450 lbs.—670° F.

The swing of plant after plant to Riley Steam Generating Units during the past few years has undeniably established Riley as one of the leaders of the boiler industry.

Be sure to consult Riley when steam generating or fuel burning equipment is being considered.

RILEY STOKER CORPORATION WORCESTER, MASS.

BOSTON

NEW YORK

PHILADELPHIA

PITTSBURGH

BUFFALO

CLEVELAND

DETROIT

CINCINNATI

ST. PAUL

ST. LOUIS

ATLANTA

KANSAS CITY

CHICAGO

LOS ANGELES

COMPLETE STEAM GENERATING UNITS

**BOILERS - SUPERHEATERS - AIR HEATERS - ECONOMIZERS - WATER-COOLED FURNACES
PULVERIZERS - BURNERS - MECHANICAL STOKERS - STEEL-CLAD INSULATED SETTINGS**

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IT'S ALL DONE WITH SCRIPTS...

DAVID O. SELZNICK
presents
MARLENE DIETRICH
and **CHARLES BOYER** in
"The GARDEN of ALLAH"



*and the scripts are
on Hammermill*

WHEN it comes to scripts, famous motion picture companies agree with the large broadcasting chains. They *must* be produced quickly, neatly—with no smudging or blurring. A typical movie script is shown above. This particular script was wholly produced on Hammermill Paper, bound in Hammermill Cover. The large moving picture companies use Hammermill Bond and Hammermill Mimeograph for the original typed scripts, for mimeographed copies, for correction sheets, for memorandums of instruction and dozens of other important uses on the lot. *Free . . .* If you own and operate an office "printing machine," check the squares below and we shall be glad to send you a generous packet of the correct paper for trial purposes.

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papers

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Please send my free trial packet of paper.

We operate a Multigraph ☐, Mimeograph ☐,
Stencil duplicator ☐, Gelatin duplicator ☐, Spirit
duplicator ☐, Multilith ☐.

Name

Address

Please attach coupon to your business letterhead

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Eight Benefits

THE work of this Association is actually producing benefits for the public utilities of the country in eight ways:

1. It is helping the utilities build industrial customer good will.
2. It is turning the customer's thoughts from *rates* to *use* of power.
3. It is insuring a continuance of the use of *electrical* power.
4. It is paving the way for the purchase of more electrical equipment.
5. It is raising low power factor in customers' plants.
6. It is tempering demand factors in customers' plants.
7. It is increasing the availability of present generating capacity.
8. It is increasing the utility's *net* operating revenue.

These are worthwhile objectives not only for ourselves but for every public utility. Consequently we invite you to participate whole-heartedly in our program because of the selfish interest you already have in it. May we discuss the subject with you in detail?

***POWER TRANSMISSION COUNCIL**

75 State Street, Boston, Mass.

*A research association of producers and distributors of power, power units, and mechanical equipment for the transmission of power.

A POWER DOLLAR SAVED IS A PROFIT DOLLAR EARNED



The careful investor judges a security by the history of its performance.

KERITE

in three-quarters of a century of continuous production, has established a record of performance that is unequalled in the history of insulated wires and cables.

Kerite is a seasoned security.



THE KERITE INSULATED WIRE & CABLE COMPANY INC.
NEW YORK CHICAGO SAN FRANCISCO



*Here's an end to
Small-Valve
Troubles*

The CHAPMAN List 960

This low-priced steel gate valve can be standardized on all services, corrosive or non-corrosive, on lines up to 2" — can be forgotten for at least five years. Pressures to 800 lbs. at 750°F.; cold working pressures of 2500 lbs. up to the 1" size; larger sizes to 1500 lbs.

Made in two types, outside and inside screw rising stem. Carbon steel forged body. Stem, plug and seat rings are stainless and readily replaced. Threads are quick-opening. Repacking does not require shutdown. List 960 is in stock, in eight sizes, at the factory and Chapman warehouses. Write the nearest office — Atlanta, Boston, Chicago, Cleveland, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, Salt Lake City, San Francisco, Syracuse, Tulsa.

THE SMALL STEEL GATE VALVE WITH THE BIG GUARANTEE

The Chapman Valve Manufacturing Co. agrees to replace without charge any working part or parts of any Chapman List 960 Steel Valve which fails within five years from the date of installation.

The **CHAPMAN VALVE**
MANUFACTURING COMPANY
INDIAN ORCHARD, MASSACHUSETTS

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An IBM Service Bureau

Let this *Fact-finding* Service work for you

Facts and figures that point the way to more efficient and economical management are quickly available through the International Business Machines Service Bureau.

Here is an accounting and statistical organization with years of experience and proved ability. Through the medium of punched tabulating cards and International Electric Bookkeeping and Accounting Machines, this organization will prepare Rate Analysis, Inventories and Valuations, Market Surveys and many other important utility records and reports.

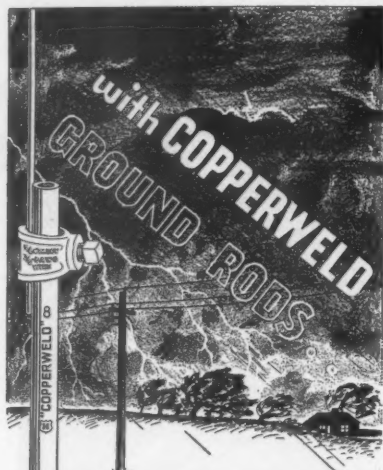
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270 BROADWAY, NEW YORK, N. Y.

BRANCH OFFICES IN
PRINCIPAL CITIES OF THE WORLD

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PROTECTIVE GROUNDS ARE BETTER EQUIPPED TO DO THEIR PART

Installed out of sight, where periodic inspection is impractical, Copperweld Ground Rods and Grounding Clamps insure the dependability of your protective grounds.

Although Copperweld Ground Rods offer the permanence of copper, because of their rust-proof copper exterior, they are nevertheless theft-proof. Also, they can be driven quickly, without bending, as the steel core of these rods makes them extremely rigid.

*Specify Copperweld Rods
and Clamps—and guard
against substitutions*

COPPERWELD STEEL COMPANY
GLASSPORT PA.

COMPLETE PROTECTION



Catalog No. W-300 PIT

For outdoor housing of indoor type transformers. Aluminum or rust-proofed steel. Completely weatherproof.

Write today for complete information.

WALKER ELECTRICAL CO.
Atlanta, Ga.

ACCURACY

In the efficient operation of water or sewage treatment works, it is of utmost importance that a definite and ACCURATE knowledge of flow conditions be known.

SIMPLEX VENTURI TYPE METERS, because of their SENSITIVITY and ACCURATE RESPONSE to flow variations over a wide range, will meet your most exacting flow measuring requirements.

Let SIMPLEX ENGINEERS help YOU.

SIMPLEX VALVE & METER CO.
6761 Upland St., Philadelphia, Pa.

ATION

trans-
steel.

CO.

water
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inite
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ME-
IVI-
NSE
nge,
flow

help

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ent)



As the
PILOT
is to the
PLANE

SO TITAN CONTROLS ARE TO YOUR STORAGE WATER HEATER

A CAPABLE and dependable pilot is essential to the plane. So too, TITAN Controls, marvelously capable and thoroughly dependable, are essential to your storage water heater.

¶ TITAN Controls are built to meet the rigid requirements of water heater manufacturers. Their adoption by most manufacturers is sufficient proof that TITAN Controls are maintaining the high standards that are required.

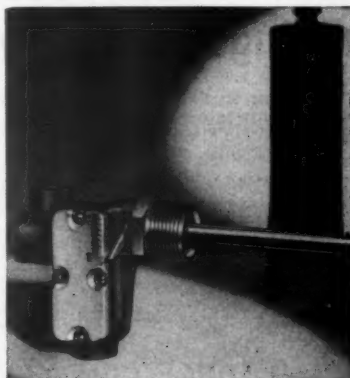
¶ There is no need to take unnecessary chances. Specify TITAN Controls with complete confidence. They are built to maintain perfect control of your storage water heater.

¶ They are rugged, sensitive, trouble and service free.

¶ They have been continuously delivering for years under the most diversified conditions and with all types of gases.

¶ TITAN Controls are standard equipment on most automatic storage water heaters approved by the American Gas Association.

¶ We shall be pleased to submit data on your request.



THE TITAN VALVE & MANUFACTURING COMPANY
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Effective Low-Cost DUST CONTROL for buildings of all types —

In addition to the physical advantages obtained with controlled temperature and humidity, industrial plants now have a new and powerful incentive to keep the air **CLEAN AND DUST-FREE**. This is the fact that **SILICOSIS** is now a recognized industrial hazard and in many plants, an expensive one.

Keep **YOUR** buildings from this dust menace by providing **WASHED, CLEAN AIR** at the proper temperature and humidity. Buffalo Air Washers have been used for this service for more than thirty-five years. They have many advantages of design and construction. They are "fool-proof" in operation. Operating costs are low.

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for Pure, Clean Air

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The handsome appearance of this small and somewhat formal type-style makes it a decided favorite for correspondence of an executive nature.

3 Royal's Modern Pica

Less formal than the conventional Pica. Preferred by executives desiring to impart a modern feeling in their correspondence.

2 Royal's Pica

Unusually legible. Accepted as standard for general purposes. Capitals and lower case are well-defined and clear-cut.

4 ROYAL'S EXECUTIVE

Distinctive. Has the characteristics of Royal's Italic, except that it is upright. Overcomes objection to the more usual faces.

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To INDIVIDUALIZE every department of your business!

Royal offers a complete range of more than 50 distinctive faces. Eight of the most popular are illustrated herewith . . .

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Developed for check protection. Combines reading ease, with a perforation feature which renders alteration virtually impossible.

6 Royal's Great Primer

Large size and extreme legibility make this type well suited for lectures, sight conservation, radio and photo-offset work.

7 ROYAL'S PICA SINGLE GOTHIC

Capitals only. Extensively used in billing work, as well as for legal and shipping documents. Produces maximum number of carbons.

8 Royal's Ampli

For bulletins, labels, tags and price cards. Cuts an excellent stencil. Useful in school classrooms for seat-work.

MAKE TYPEWRITER-TYPE TALK!

Make your typewriters speak your business! Royals will do that—AND MORE! The president of one organization, for example, selected Royal's Executive (4) for his official correspondence; his sales manager uses Royal's Modern Pica (3). No mistaking either's memoranda; the type-styles are as distinctive as the signatures themselves! Right now, for different departments, you have different forms—each carefully planned for greatest efficiency. Match each with the Royal type-face SPECIALLY DESIGNED FOR THE SPECIFIC JOB. Consult your local Royal representative. He is a specialist in typewriters, and type-faces. Let him advise you . . . let him tell you all about the New Easy-Writing Royal. In your office . . . Compare the Work!

ROYAL TYPEWRITER COMPANY, INC.
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Branches and Agencies the World Over

ROYAL WORLD'S NO. 1 TYPEWRITER

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* Trade-mark for key-tension device.

FIRSTS that make ROYAL FIRST! SPEED—Greater volume! EASE—With Touch Control,* Shift Freedom, and many other exclusive features! CAPACITY! Greater speed, greater output! ECONOMY—Lower costs throughout! And DURABILITY!

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With This **RIDGID** Thin Blade
Cutter Wheel of Super-Steel



● **RIDGID** Pipe Cutters give you more quick, clean cuts because of their remarkable thin blade cutter wheel. Not cut out of bar stock but coined from special tool steel, hammered, heat-treated and cast into a hub with a steel bearing, these blades have extraordinary stamina and clean cutting ability. Kept running true by the reinforced cutter housing, they save your money and your temper by nipping off far more pipe per blade and doing it cleanly, practically without burr. See your jobber or write for the whole story of these remarkable tools.

THE RIDGE TOOL CO., ELYRIA, O.

RIDGID

REG. U. S. PAT. OFF.



No. 1 $\frac{1}{8}$ " to $1\frac{1}{4}$ "
No. 2 $\frac{1}{8}$ " to 2"
No. 3 1" to 3"
No. 4 1" to 4"

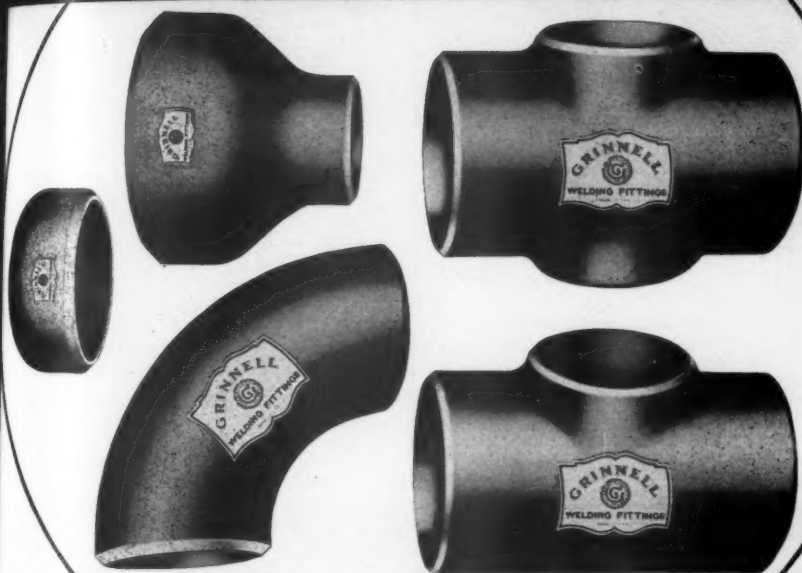


The immense popularity of the **RIDGID** Pipe Wrench is due to the facts of its great strength, its almost indestructibility and the pleasant satisfaction of using it. " " " " "

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GRINNELL FITTINGS

insure Better Welding



It is easy for a qualified pipe welder to make one, a hundred or a thousand welds by using Grinnell Welding Fittings.

They reduce all welding to plain circumferential butt welds. Their ends are perfectly machined. They cut the "human element loss" to a minimum.

Distinctive features of Welding Fittings made by Grinnell:

Uniform wall thickness

One piece fitting—no seams

Smooth surfaces, inside and outside—no flattening or buckling

Weld easily—they have the same properties as the pipe

Send for a copy of Welding Fittings Catalog for reference

GRINNELL COMPANY

EXECUTIVE OFFICES

PROVIDENCE, R. I.

Branch Offices in Principal Cities

GRINNELL WELDING FITTINGS

Include

Elbows and Returns

Tees and Crosses

Reducers

Caps, Sleeves, Saddles

Outlets

Flanges of all types

Special Welding Items

to meet special conditions

GRINNELL

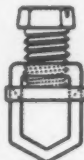
FABRICATED PIPING AND ALLIED PRODUCTS TO GRINNELL LABORATORY STANDARDS

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SIMPLE, ISN'T IT?



NOTICE: The triangular wedge formed by the tang and V-bottom collar, which forces the wire into a solid mesh—



- NO set-screw contact...
- NO flattening or separating of wires...
- NO limitation to one size wire...
- NO shearing effect whatsoever...
- NO special tools required to make connection...

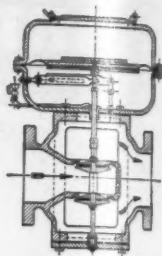
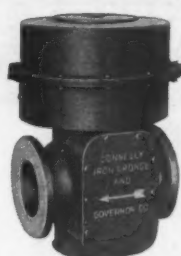
NO need for you to search any longer for the PERFECT solderless connector—WE HAVE IT!

FREE! A large display board, containing mounted samples of ILSCO lugs. Sent upon request. Address Dept. UP.

ILSCO COPPER TUBE & PRODUCTS, INC.
5629 Madison Rd. Cincinnati, Ohio

CONNELLY REGULATORS

District-Type LC



ADJUSTABLE TRAVEL: Balanced Valves with hard or soft seats; Renewable Valve Ports; Double Guided Stem.

FLEXIBILITY: Connelly District Regulators have adjustable linkages between the diaphragm and valve stem which provide unusual power for valve movement and also permits changes to various ratios of travel to obtain the best operating characteristics. The latter is especially valuable when pressure and volume are altered.

ACCESSIBILITY: The large side plates and bottom plates give the maximum of access when ever it is necessary to inspect, clean or change any parts.

PRODUCTS: Calorific BTU Indicator; Regulators for District, Service and Appliance; Back Pressure Valves; U-Gauges; Purifying Materials, mixed and unmixed. Send for Bulletins.

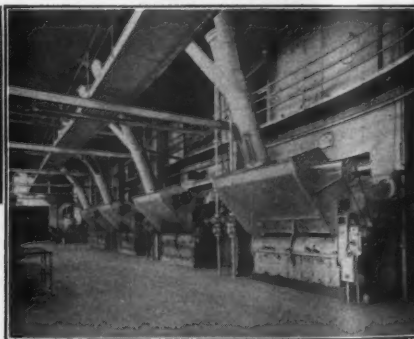
CONNELLY IRON SPONGE AND GOVERNOR COMPANY

Chicago, Ill. 3154 S. California Avenue
Elizabeth, N. J. 200 South Second Street
N. E. Agt. - - Theo. H. Piser, Wellesley Hills, Mass.

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you can BURN ANY COAL

• Stowe Stokers burn the entire range from 4 or 5% ash Pocahontas to the high ash coal from west of the Mississippi River. They give you greatest possible control over fluctuating mine prices—and changing freight rates—enable you to burn the coal natural to your location. There are other factors too that recommend Stowe Stokers for your service. Full details on request.

THE JOHNSTON & JENNINGS CO.
977 Addison Rd. Cleveland, Ohio
Engineering and Sales Services in the Principal Cities



A battery of four Stowe Stokers burning cheap midwestern coal—at high efficiency.

Catalog No. 10 gives full details—is complete with 14 diagrams—20 illustrations. Send for one.



STOWE STOKERS

★ *Compensating Feed*

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COMPANY

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STOWE

OKERS

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RESISTANCE TO OXIDATION

*The Purity of Gargoyle
D.T.E. Oils Minimizes
Sludge and Lengthens
Periods between Cleanings*



SOCONY-VACUUM OIL COMPANY, INC.

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DIVISION - WHITE EAGLE DIVISION - WADHAM'S OIL COMPANY - MAGNOLIA
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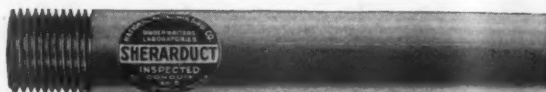
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MANUFACTURERS OF

RIGID CONDUITS



SHERARDUCT—Zinc-treated, Rust-proofed "Tested by Time"
SHERARDUCT JR.—E.M.T. Light Wall Tubing—Sherardized
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WIRES & CABLES



A complete line of wires and cables for every need and purpose including Safecote "Fire-stop" Building Wire, Lead Cable, Flex-lay (Parkway), Indestructo Rubber Sheathed and Oil-Resisting, Varnished-Cambric, Asbestos and Asbestos Varnished-Cambric.

GOELLER "GORILLA-GRIP" CONNECTORS



There is a "Gorilla-Grip" Connector for every conductor no matter where it taps or terminates.

National Electric
PRODUCTS CORPORATION
Pittsburgh, Pa.



Utilities Almanack

SEPTEMBER

10	Th	¶ <i>International Association of Electrical Inspectors, Eastern Section, ends meeting, New York, N. Y., 1936.</i>
11	F	¶ <i>Pennsylvania Electric Association concludes convention, Bedford Springs, Pa., 1936.</i>
12	Sa	¶ <i>Third World Power Conference and Second Congress on Large Dams concludes session, Washington, D. C., 1936.</i>
13	S	¶ <i>Empire State Gas & Electric Association will convene for annual meeting, Saranac Inn, N. Y., October 1, 2, 1936.</i>
14	M	¶ <i>International Association of Electrical Inspectors, Northwestern Section, starts convention, Olympia, Wash., 1936.</i>
15	Tu	¶ <i>National Electrical Manufacturers Association will hold convention, Cincinnati, Ohio, October 4-10, 1936.</i>
16	W	¶ <i>Michigan Municipal League starts meeting, Mushegon, Mich., 1936.</i> ¶ <i>The Kentucky Municipal League begins session, Paris, Ky., 1936.</i>
17	Th	¶ <i>The Illinois Telephone Association begins meeting, Peoria, Ill., 1936.</i> ¶ <i>Illinois Municipal League starts session, Danville, Ill., 1936.</i>
18	F	¶ <i>West Virginia Public Utilities Association opens annual meeting, White Sulphur Springs, W. Va., 1936.</i>
19	Sa	¶ <i>National Electrical and Radio Exposition concludes meeting, New York, N. Y., 1936.</i>
20	S	¶ <i>American Gas Association will hold annual session, Atlantic City, N. J., October 26-30, 1936.</i>
21	M	¶ <i>American Transit Association and affiliates open 55th annual convention, White Sulphur Springs, W. Va., 1936.</i>
22	Tu	¶ <i>Association of Iron & Steel Electrical Engineers opens meeting, Detroit, Mich., 1936.</i> ¶ <i>New England Water Works Association starts meeting, New York, N. Y., 1936.</i>
23	W	¶ <i>Rocky Mountain Electrical Association ends annual convention, Santa Fe, N. M., 1936.</i>



Courtesy of General Electric Co.

Unharnessed Power

Public Utilities

FORTNIGHTLY

VOL. XVIII; No. 6



SEPTEMBER 10, 1936

Third World Power Conference

An international gathering in Washington of distinguished representatives of the electrical industry, both public and private, following previous meetings in London and Berlin.

By O. C. MERRILL
DIRECTOR

THE Third World Power Conference brings the pick of the world's power experts of all types to Washington, September 7th-12th. The specific topic of discussion is "The National Power Economy." The value of a complete survey of this subject, under such auspices, is self-evident. So is the series of technical study tours, by which visiting delegates will be brought into intimate contact with the electrical industry of the United States.

But, the full significance of this gathering cannot be appreciated without a knowledge of the history of the series of World Power Conferences.

The answer to the question—"How

did it all start?"—takes us back to England in 1923.

Mr. Daniel N. Dunlop was a distinguished British engineer of Scottish birth, public-spirited, with a genius for organization, gifted with a charming and magnetic personality, and rare power of persuasion. He had an idea. He felt that the engineering profession of all nations should work together to speed up world rehabilitation after the Great War. He brought together not only engineers, but government officials, utility executives, financiers, representatives of fuel and transportation industries. Their common interest was power, Power with a big "P." They agreed with Mr. Dun-

PUBLIC UTILITIES FORTNIGHTLY

lop on the vital necessity of finding a world basis for everything bearing on power. Mr. Dunlop once said that he wanted "to form a link between the branches of power and fuel technology; between the experts of the different countries throughout the world and between engineers on the one hand and on the other hand statesmen, administrators, scientists, and economists."

In 1924 the first World Power Conference was held. It was, incidentally, the first international gathering after the war in which representatives of Germany and Soviet Russia met on terms of equality with those of other nations. Mr. Dunlop's ideas won the approval of those present.

A PERMANENT organization was formed, with an executive council having headquarters in London and composed of representatives of some 40 national committees. Its interconference activities have generally been of a technical nature, largely statistical. It has had an important influence on international statistical standardization. An International Commission on large dams was organized as part of the World Power Conference; its object is to further progress in the design, construction, maintenance, and exploitation of large dams.

All through these years Mr. Dunlop was the guiding genius of the World Power Conference. But his death in 1935 did not check the movement, and others sharing his ideals are still carrying it on. The broad purposes of these conferences remain—to examine the part played by power in all technical, economic, social, and public bearings; to provide a forum for the in-

terchange of data and ideas; to dramatize the rôle of power in the modern world. The World Power Conference takes no part in international politics. In its councils all countries have an equal voice.

"Plenary" conferences with extensive programs, and sectional conferences devoted to special problems have followed in close succession. The story can be told briefly in skeleton form (see page 277).

AFTER the Berlin meeting the feeling grew in World Power Conference circles that the conferences were tending to become too narrowly technical. The World Power Conference idea is something of broader appeal than a mere international discussion of engineering problems. So it was decided to stress the economic issues of power in the 1936 World Power Conference.

At Berlin, Owen D. Young, speaking by short-wave radio from San Francisco, on behalf of the electrical industry of the United States, invited the conference to come to America in 1936. President Roosevelt later issued a formal invitation on behalf of the United States government. The executive committee of the World Power Conference accepted the invitation to meet in Washington in joint session with the Second Congress on Large Dams. The date was set. Congress appropriated \$75,000 for expenses. The American electrical industry, which had not felt equal to taking full responsibility for the conference in view of the world's economic and political unsettlement, promptly fell into line. The Edison Electric Institute appropriated \$75,-

THIRD WORLD POWER CONFERENCE

000 for conference expenses. The National Electrical Manufacturers Association put up another \$25,000.

A new American National Committee was organized, with Secretary of the Interior Harold L. Ickes, chairman, and with sixty individuals representing government, utilities, industry, transportation, labor, research, education, and the public and various organizations.

The conference was organized with the following officials:

Honorary President: Franklin D. Roosevelt, President of the United States of America.

Honorary Vice President: Harold

L. Ickes, Secretary of the Interior. Chairman: William F. Durand, Consulting Engineer.

Director: O. C. Merrill, Consulting Engineer.

THE first job was to outline a program in accordance with the policy previously decided on. This program which was distributed in final printed form on December 12th met with general commendation.

The National Power Economy will be discussed in relation to:

Its physical and statistical basis; its technical, economic, and social trends; the relation thereto of the fuel-pro-



Outline History of the World Power Conference

1923	Organized on the initiative of the late D. N. Dunlop of Great Britain.
1924—June 30th—July 12th	First Plenary World Power Conference at London, in connection with the British Empire Exhibition at Wembley. About 1,700 members present from 43 countries. This conference discussed the entire subject in a broad way and formed a background for a later conference. The papers presented centered around the problems of making an inventory of the resources of the world in power and fuel, and using those resources to the greatest possible advantage.
1926	Sectional conference at Basle, 200 members present. Topic: Water Power and Inland Navigation.
1928—Sept. 24th—Oct. 6th	Sectional conference, London. Topic: Fuels.
1929—Nov. 15th—23rd	Sectional conference, Barcelona. Topic: Complete Utilization of Water-power Sources.
1929—Oct. 29th—Nov. 7th	Sectional conference, Tokyo. Development of power sources.
1930—June 16th—25th	Secondary Plenary Conference. Berlin—3,891 members present; 394 papers presented from 34 countries. Topic: The Distribution and Utilization of Power. There was discussion of power sources, production, transmission and storage, utilization, and of legislative, educational, statistical, economic, and research problems.
1933—June 26th—July 20th	Sectional conference, Stockholm. Under the auspices of the Committees of Sweden, Denmark, Finland, and Norway. Topic: The Power Questions of Large Scale Industry. First Conference on Large Dams.
1936—June	Sectional conference at London—a Chemical Engineering Conference.
1936—Sept. 7th—12th	Third Plenary Conference at Washington. Topic: The National Power Economy. Second Congress on Large Dams.

PUBLIC UTILITIES FORTNIGHTLY

ducing, processing, and distribution industries, and of electric and gas utilities; practices regulation; national and regional planning of power development and use; conservation of fuel and water resources; rationalization of the distribution of gas and electricity; and a national power and resources policy.

A list of eighteen titles for papers was prepared with full suggestions for treatment of each. This information was put together in an attractive booklet and sent to all national committees. Work on papers began at once. About three hundred papers, from twenty-six countries, had been received by August 1st.

AUTHORS were selected for the American papers, including economists, research experts, utility executives and government administrators. The general high caliber of American participation is shown by the list on page 281.

The strong representation of both government and electric industry groups on the committees and the program is one fact that cannot be too strongly stressed. It is indicative of the complete coöperation of both groups in staging this World Power Conference. Any suggestion that the conference is being "used" by any special interest falls down completely. All concerned with the conference are equally enthusiastic over its possibilities and equally devoted to the task of making it a complete success. They feel that differences of opinion on political and economic power questions may well be subordinated. A very definite centering of interest on the development of power has created a new bond among government work-

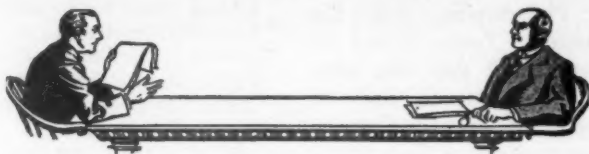
ers, utility executives, engineers, electrical manufacturers, and fuel producers and processors.

With the preparation of program papers well under way, attention of the World Power Conference executives was next concentrated on the study tours.

And here we come to one of the most notable features of the conference. For good and sufficient reason the economic side of power was made the chief consideration of the Washington Conference. However, it was realized that the engineers from abroad would be disappointed if they could not acquire valuable technical information from their visit.

IT was decided to give the visitors a complete picture of American advances in the field of power. So a series of nine study tours was planned to take groups of conference delegates to all the chief industrial centers, research laboratories, and power projects of the United States. These tours are an integral part of the conference. They decentralize it. They form a veritable "technical program on wheels." A series of tours on this scale is a new departure in international conferences. There is nothing haphazard about the tours. They have been planned with a thoroughness in keeping with the best traditions of the engineering profession. Maurice Holland of the National Research Council, who has had a great deal of experience in connection with technical tours abroad and at home, undertook the job of organization. A co-ordinating committee was formed with representatives of the American engineering societies and the trade as-

THIRD WORLD POWER CONFERENCE



Influence of World Power Conference

" . . . the World Power Conference has established itself as an international institution for the public discussion of matters affecting the economic and social interests of the people of all countries. Its influence now and hereafter will depend upon the extent to which it is broadly international and refrains from any interference with international or national politics, also upon the degree to which it appeals to the layman as well as the engineer."

sociations interested in the Power Conference. The American Express Company was employed as travel agent. It was essential that no time be wasted on these tours. Contact was made with every important industrial corporation in the power field. A local World Power Conference Tours Committee, largely composed of distinguished engineers, has been organized in each place to be visited.

Itineraries were worked out for nine separate tours—four before, and five after, the conference. The special fields of interest of the visitors were listed, and arrangements were made for the handling of groups.

IN order to secure the maximum practical benefit from these tours, round table conferences were scheduled for each group on each tour. Special topics of discussion and leaders were chosen, again with infinite care. Only the significant new developments in practice in the field of power will be studied.

Space will not allow more than a passing reference to the itineraries. The four which leave New York city from six to nine days before the conference meets, are practically repeated in four tours following the conference. Tour I, pre and post conference, is arranged for those interested in mineral sources of energy—coal, gas, oil, internal combustion engines. Tour II is concerned with hydraulic sources of energy—dams (for the special benefit of delegates to the Second Congress on Large Dams), hydroelectric plants, hydraulic research, the Tennessee Valley Authority. Tour III concentrates on the problems involved in furnishing metropolitan areas with electric power and gas, taking in steam-power-plant practice, electrical equipment, electrical research, and the business management of utilities. Tour IV is concerned with new practice in railroad transport. The points visited on these eight tours include: New York, Boston, Schenectady, Niagara Falls, Cleve-

PUBLIC UTILITIES FORTNIGHTLY

land, Detroit, Chicago, Zanesville, Pittsburgh, Philadelphia, and the Tennessee valley. Tours II and V, post conference, will also take delegates to Montreal, Ottawa, and the power projects of eastern Canada. Tour V, post conference, is a trans-continental tour devoted to major construction projects which will include eastern Canada, the great power projects of the Pacific coast, like the Grand Coulee and Boulder dam, the high-head hydro-power projects in the Sierras, and the oil fields of California. All five post-conference tours are routed through Niagara Falls to coincide with the sectional meeting of the American Society of Mechanical Engineers.

ON these tours nothing is being left undone to insure the physical comfort of the delegates, and to make the inspection trips and round table discussions really significant. A bulletin has been sent out describing these tours, and prospective delegates have been asked to state preferences so that reservations may be made.

Further rounding out the conference on the technical side, and also adding to the general interest, are the series of exhibits being staged in Washington through the work of a committee headed by C. E. Stephens, vice president of the Westinghouse Electric and Manufacturing Company. Taken together these exhibits will present the story of the development of America's power resources during the past fifty years. Exhibits at either the new National Museum or the Mayflower Hotel will be made by important private and governmental organizations including:

Rural Electrification Administration.
United States Geological Survey.
United States Bureau of Mines.
United States Bureau of Reclamation.
Public Works Administration.
Boiler Manufacturers Association.
Puerto Rico.
United States Army Engineers.
Municipal Power Plants.
National Electric Manufacturers Association.
American Gas Association.
Federal Power Commission.
National Coal Association.
United States Forest Service.
American Engineering Council.
Diesel Engine Manufacturers.
Chesapeake and Potomac Telephone Co.
Tennessee Valley Authority.
Edison Electric Institute.
Illuminating Engineering Society.
American Petroleum Institute.
Hydraulic Institute.
Heat Exchange Institute.
Compressed Air Institute.

These exhibits will consist largely of charts, maps, photographs, dioramas, models, etc. The Rural Electrification Administration's 100 per cent electrified farm, twenty miles out of Washington, has already attracted much attention. In addition special displays of equipment, machinery, models, maps, and the like will be presented in their own buildings by such Washington institutions as:

National Museum, Arts & Industries Building.
Bureau of Standards.
Library of Congress.
National Academy of Science.
United States Patent Office.
Carnegie Institute.
Potomac Electric Power Company.
Washington Gas Light Company.
American Telephone and Telegraph Company.

Advance registrations indicate that

THIRD WORLD POWER CONFERENCE

Questions to Be Discussed

<i>Title</i>	<i>Author</i>
1. Power Resources, Development and Utilization.	
2. Trends in the Utilization of Power Resources.	Dr. Harlow S. Person, Consulting Economist; and Dr. Vannevar Bush, Dean of Engineering and Vice President of M. I. T.
3. International Use of Statistics.	Dr. E. Dana Durand, Commissioner, U. S. Tariff Commission.
4. Production and Distribution of Coal and Coal Products.	National Coal Association; Isador Lubin, Commissioner of Labor Statistics.
5. Production and Distribution of Petroleum and Its Products.	Myron S. Watkins, New York University; E. L. deGolyer, President, Felmont Corporation, Houston, Texas; J. Noel Robinson, Vice President, Tidewater Oil Co., of New York; R. E. Hardwicke, Fort Worth, Texas; Joseph E. Pogue, Consulting Engineer.
6. Production and Distribution of Gas.	Judson C. Dickerman, Federal Trade Commission; American Gas Association.
7. Organization of Private Electric and Gas Utilities.	Robert E. Healy, Member of Securities and Exchange Commission; and Jas. F. Fogarty, President, North American Co.
8. Public Regulation of Private Electric and Gas Utilities.	James C. Bonbright, Trustee, New York Power Authority, and William E. Mosher, Syracuse University; and John E. Zimmermann, President, United Gas Improvement Company.
9. Organization of Publicly Owned Utilities.	E. F. Scattergood, General Manager, Bureau of Power & Light, City of Los Angeles.
10. Planning for the Conservation of Natural Resources.	Stuart Chase, Economist; and W. S. Finlay, Jr., President, West Penn. Electric Co.
11. Conservation of Coal Resources.	U. S. Bureau of Mines.
12. Conservation of Petroleum and Natural Gas.	U. S. Bureau of Mines.
13. Planned Utilization of Water Resources.	Arthur Morgan, Chairman, TVA; and Harrison G. Roby, Byllesby Engineering & Management Corp.
14. Utilization of Small Water Powers.	Dr. H. H. Bennett, Chief, Soil Conservation Service, U. S. Department of Agriculture.
15. Regional Integration of Electric and Gas Utility Facilities.	Basil Manly, Vice Chairman, Federal Power Commission; and Geo. N. Tidd, President, American Gas & Electric Co.
16. Rationalization of Distribution of Electric Energy and Gas.	J. D. Ross, Securities & Exchange Commission; Norman R. Gibson, Vice President Niagara-Hudson Power Corporation, and Alexander Forward, Managing Director, American Gas Association.
17. Rural Electrification.	Dr. H. A. Morgan, Director, TVA; and Hudson W. Reed, United Gas Improvement Co.
18. National Power and Resources Policies.	George Soule, New Republic; and Floyd L. Carlisle, Chairman of the Board, Niagara Hudson Power Corporation.

PUBLIC UTILITIES FORTNIGHTLY

there will be at least 600 delegates from abroad at the World Power Conference—among these are 100 from Canada, 100 from Great Britain, 75 each from France and Germany, 30 from Japan, 20 from Poland. The total attendance will probably be over 2,000. The conference headquarters are at the Mayflower Hotel. The sessions of the conference and the concurrent Congress on Large Dams will be held in the National Museum Auditorium, the Commerce Building Auditorium, and the new Government Auditorium on Constitution avenue. The joint opening session on Monday evening will be held in Constitution Hall as will the joint session on Friday afternoon which will be addressed by President Roosevelt. All the meeting places will be air conditioned. Besides these regular and special sessions, the events of conference week include a formal banquet on Thursday evening for which the main waiting room at Union Station will be transformed into a great banquet room; the garden parties and receptions at the White House, at Mount Vernon, and in the beautiful gardens of the Robert Woods Bliss estate in Georgetown.

And this brings us to the interesting solutions of the problems created by the fact that the delegates will speak many different languages. The languages of the conference are English, French, German, and Spanish. Conference bulletins and other literature have been prepared in all these languages, as well as summaries of all the conference papers.

IN view of the fact that there are 18 paper topics, and that forty-odd

countries are presenting papers on most of these topics, delegates may be relieved to know that no papers will be read. Already more than 300 papers have been received from twenty-six countries and the total will doubtless reach 400. I repeat that these papers will not be read at the conference sessions. As the papers come in they are edited and printed and they will be distributed to the delegates, accompanied by summaries in four languages. The papers for each session will be summed up by a reporter and will be made the basis for the discussions for the sessions. This discussion will be made available to all delegates by the use of a telephonic interpreting system. Each chair in the auditorium will be fitted with a telephone headpiece and four switches. These will be wired to connect with four telephone transmitters on the platform. It will be possible for announcements to be made simultaneously in four languages, each delegate switching on to the line connecting with the interpreter speaking his language. After a speaker has talked in English, for instance, there will be simultaneous interpretations in French, German, and Spanish.

Ample provision will be made for the comfort and entertainment of delegates between conference sessions, for reservation of hotel accommodations, for the easing of passport and customs regulations, and for special low railroad rates.

Any person applying, through the various national committees, or directly to the World Power Conference in Washington, may become a member upon payment of a \$10 registration fee.

THIRD WORLD POWER CONFERENCE

THE American National Committee has exerted itself to bring a large attendance from all countries. Special representatives were sent abroad. Roscoe R. Hill was sent to South America, visiting all the South American capitals by airplane. Charles K. Ludewig similarly visited Mexico and Central America. Dr. Harlow S. Person contacted the various European committees visiting thirteen countries and eighteen large cities in a course of a 45-day journey.

Since the first meeting of the World Power Conference in London in 1924, the World Power Conference has established itself as an international institution for the public discussion of matters affecting the economic and social interests of the people of all countries. Its influence now and hereafter will depend upon the extent to which it is broadly international and refrains from any interference with international or national politics, also upon the degree to which it appeals to the layman as well as the engineer.

The American National Committee believes that the Third World Power Conference in Washington will extend the influence of this institution, among all industries concerned with power, among engineers and the general public.

WE have been gratified by the fact that the delegates from abroad are men of the highest professional standing in their own country and deeply interested in the purposes of the World Power Conference. The writers of papers both from this country and abroad comprise an array of distinguished talent in the fields of

electric power production and distribution, administration, and economics. There will be much of value in the conference papers and discussions for the engineer, the economist, the business man, and the intelligent citizen.

We are confident that there will come from this meeting in Washington a definite advance in our knowledge of the world's power resources, a clearer understanding of how these resources are now being used, and some guide to their more efficient use in the future.

As an engineer, and one who has had no small experience in the field of power, I feel that the World Power Conference can be made to direct the immeasurable potentialities of the power age into the right channels. It seems to me that we have allowed ourselves to be drawn into unnecessary controversy over power, such as the clash over regulation and over the government's new enterprises in power production and distribution. This conference, in which representatives of both sides will play leading rôles, makes possible a subordination of differences in the interest of the formation of new national power policies benefiting alike private and public power enterprise and the consuming public.

I cannot close without remarking on the success of this World Power Conference enterprise as an international movement which has thrived during a period marked by the collapse of so many promising efforts for international coöperation. If the nations of the world can be brought together in any measure through the World Power Conference—it is a consummation devoutly to be wished.



Electric Utilities Enter upon a New Era of Expansion

THE use of electric service which showed large gains even during the depression years now rapidly increasing—Rural electrification and favorable rate schedules.

By W. CLARENCE ADAMS

ENTERING upon a new era of expansion almost overnight, electric utilities throughout eastern United States are spending huge sums in extending their systems into new areas previously deemed as unprofitable for service. With the Federal government lending financial assistance through the Rural Electrification Administration, building programs are being announced by practically every major operating unit in the country. Extension of power facilities into rural districts increased approximately 175 per cent during 1935 when more than 83,000 farms were provided with service for the first time. A 50 per cent increase in rural line construction over the 1935 record is predicted for this year.

Private utility companies in the United States will have spent approximately \$80,000,000 in rural line expansion over a twenty-four months'

period by the end of the year, with the greater percentage of the funds going into this year's building programs. Another \$80,000,000 is being invested in farm wiring and appliances. At the end of the year over 300,000 new rural customers will have been added over the 2-year period. Of this number, approximately 158,000 will be 1936 customers.

Probably the most encouraging factor pointing toward expansion of electric utilities is the recent record gains in power production throughout the nation and especially in the eastern half. Domestic use of electricity has stepped up to a point 42 per cent above the 1929 figure. In fact, consumption of electricity even showed large gains during the depression years. The electric output during the first two weeks of July of this year was the highest ever recorded.

With the realization that the pro-

ELECTRIC UTILITIES ENTER UPON A NEW ERA OF EXPANSION

duction of power can be achieved more cheaply when operations are on a very large scale, the electric industry is endeavoring to extend its systems to all outlying districts in an effort to provide more compact units. By the use of promotional rate systems, increased use of power is then achieved. The introduction of lower rate systems also present opportunities for companies to wage strenuous campaigns for greater consumption through the use of appliances.

THE new attitude of utility executives toward rural expansion has been expressed by Graham Claytor, vice president of the American Gas and Electric Company, an affiliate of Electric Bond and Share Company.

"The popular demand for rural electric service," he states, "is no longer a theory, it's a condition, and the recognition of this fact by those who are logically the ones best qualified to do the job is the first step in solving the problems created by this popular demand. The job requires the best brains of our engineers, economists, manufacturers, and salesmen."

Although it is almost impossible to comment in such a limited space on the expansion activities of electric power utilities in each state throughout the eastern half of the nation, a brief review of building programs in various states in this area will give some idea of the gigantic program that is being undertaken.

In the state of New York, where more than 36 per cent of the farm homes are already provided with power facilities, three large utility systems (Central Hudson, Niagara Hudson, and Associated) have announced

plans calling for the construction of more than 7,000 miles of lines which will give service to 30,000 new customers. Of this amount, the companies will complete 3,500 miles of line to give service to 16,000 new customers during the year of 1936. The public service commission of New York announced in January of this year that it had approved construction programs of public and private utilities amounting to over \$8,000,000.

THE Niagara Hudson Corporation announced that with the six months ending March 31, 1936, it had already built over 500 miles of lines into rural areas, as compared to 452 miles of lines constructed during the entire year of 1935. The new lines bring service to approximately 1,915 householders not before receiving service, and in addition 1,147 new customers have been connected upon lines already in operation. The Central Hudson Gas and Electric Company is building 500 miles of additional rural lines. When its present plans are complete, the company will provide service for about 88 per cent of the farms in its territory in New York state.

Among the North Central States which have made considerable headway in the past year in expansion of power lines is Illinois. While practically no expansion activities were in progress during 1934, more than 70 projects were started in 1935. In the first three months of 1936 over 100 applications for certificates of convenience and necessity for rural extensions were filed with the Illinois Commerce Commission.

The Central Illinois Light Com-

PUBLIC UTILITIES FORTNIGHTLY

pany, the Illinois Northern Utilities Company, and the Public Service Company of Northern Illinois are all intensely interested in rural expansion and have made commendable progress in the past year. The Illinois Northern Utilities Company expects to spend approximately \$200,000 during this year to provide electric service for at least 600 farms in the northwestern part of Illinois. The Illinois Power and Light Company and a number of other small companies have also made great changes in their rural policies in regard to line construction. The Public Service Company of Northern Illinois has for a number of years done extensive work in extending its lines to outlying areas.

JAMES M. Slattery, chairman of the Illinois Commerce Commission, who coöperated with the writer in securing data on the expansion activities of utility companies in that state, has said:

The Illinois Commerce Commission, recognizing the significance of new developments in the field of rural electrification, formed a special rural electrification committee to handle all matters concerning this problem coming before the commission. Governor Horner, likewise, has shown a great deal of interest in the new developments in this field and recently appointed a state rural electrification committee composed of men well qualified to aid all agencies interested in the development of rural lines.

As a result of these activities on the part of the companies and on the part of the state bodies, and as a result, of course, of

the activities of the Rural Electrification Administration, there is in progress in Illinois at the present time the greatest rural electric line building program in the history of the state. Private companies of this state alone have applied to the Illinois Commerce Commission within the first six months of 1936 for certificates of convenience and necessity to construct approximately 1,500 miles of rural lines to serve over 5,000 farm customers. In addition, the Rural Electrification Administration has been active in promoting coöperatives in this state, although so far as I am able to determine at this time none of these coöperative projects have actually been started.

WITH a constant downward trend in production cost, electric power utilities in Pennsylvania have launched huge expansion programs into new areas. Surveys recently conducted in that state show that it has approximately 15,000 miles of rural lines serving 50,000 farms and 150,000 suburban residents. Since 1927, 9,000 miles of line have been built at a cost of more than \$18,000,000 which serve 104,328 customers of whom 25,531 are farmers. During 1935 slightly more than 1,000 miles of new rural lines were built. More than 3,000 miles of lines are scheduled to be completed by January 1, 1937. According to C. J. Goodnough, chairman of the public service commission of Pennsylvania, the lines built into rural districts in 1935 were 40 per cent greater than the combined total constructed in the years of 1933-34, and included service to 10,561 new customers.



Q "THE popular demand for rural electric service is no longer a theory, it's a condition, and the recognition of this fact by those who are logically the ones best qualified to do the job is the first step in solving the problems created by this popular demand. The job requires the best brains of our engineers, economists, manufacturers, and salesmen."

ELECTRIC UTILITIES ENTER UPON A NEW ERA OF EXPANSION

H. L. Mitchell of the West Penn Power Company of Pennsylvania states that during this year his company expects to complete 239 miles of rural power lines at a cost of \$447,200 and will connect 1,973 new customers. About 170 miles of new lines were built in 1935. The 1935-36 expansion program undertaken by this company involves an expenditure of \$837,100, but approximately 4,000 new rural customers will be added.

The general attitude of utilities in the state of Wisconsin has been very favorable toward expansion of their power distribution and generating facilities in the past year, according to William M. Dinneen, secretary of the public service commission of Wisconsin. At the end of 1935, approximately 43,599 rural customers were being served by power companies in that state. Rural line mileage constructed during the past year was about 375 miles.

THE Commonwealth and Southern Corporation, which has operating units in several states in eastern United States, has announced it will spend \$4,376,628 for rural line construction during this year. The Dayton Power and Light Company will spend about \$502,652, and the Union Gas and Electric Company system, \$696,044.

In the southern states, rural electrification programs are being carried on by the majority of all the larger utility companies. In Arkansas the Arkansas Power and Light Company has launched a huge expansion program which has been termed the "Five Year Plan." It proposes to extend lines into every area wherever as many as four customers to the mile can be

obtained. Since January, 1935, the company has constructed some 99 extensions of the new type of rural line of an aggregate mileage of 475 and aggregate cost of \$309,000, extending service to 2,040 farms, stores, and other establishments which heretofore had not had the advantages of electric service from a power system. The main feature of this utility's rural electrification program has been the employment of customers who desire to earn enough money in construction of the line to pay for wiring of their homes, purchasing lamps and some other equipment. Expansion programs have also been announced by four other large utilities in this state.

THE Alabama Power Company, which operates in 65 of the 67 counties of that state, has actively been engaged in rural expansion for several years and recently has enlarged its program. Between September 1, 1935, and June 6, 1936, a total of 649.89 miles of rural electric lines has been constructed to serve 3,117 new customers. Since starting its rural electrification program nine years ago, this utility has provided electric service to 38,682 customers who live in rural areas. The distribution of electric service has progressed to such an extent that there is not any community center in the state with a population of 500 or more without 24-hour electric service, and there are but few communities with a population of 100 that are not provided with electric service.

The Georgia Power Company will spend more than \$525,000 for rural expansion during this year. Plans call for the construction of about 300

Effort to Reduce Cost of Extension



"REAIZING that the practice of securing huge deposits and contributions from prospective customers is fast becoming obsolete and that the construction costs must be cut to the minimum if a profit is to be expected from rural extensions, construction engineers of the larger electric utilities have experimented with distribution lines in an effort to lower the costs."

miles of new lines and extension of 75 miles of existing lines. This program includes service to approximately 1,750 new customers living wholly outside incorporated municipalities.

Tennessee, Missouri, Kentucky, and Virginia electric power utilities are formulating expansion programs, although not as large in proportion to those in some other southern states. Several cooperative projects, financed through the Rural Electrification Administration, are scheduled to begin operation in this area shortly.

From this cross-section review, it is apparent that the electric industry is vitally interested in expansion of their lines into rural areas. Utilities in some states have been working on expansion programs into rural districts for several years, and, naturally, have gotten off at an early start, while others have not made as great progress. As new developments and improvements occur in the field of rural electrification, expansion activities of electric utilities will be greatly increased.

REAIZING that the practice of securing huge deposits and contributions from prospective customers

is fast becoming obsolete and that the construction costs must be cut to the minimum if a profit is to be expected from rural extensions, construction engineers of the larger electric utilities have experimented with distribution lines in an effort to lower the costs. Special care has been exercised not to reduce construction standards below the level consistent with good engineering practice. Until recently rural extensions were based on an average of \$1,500 to \$2,000 per mile. However, through experiments several companies have now been able to scale down their line costs to below the \$1,000 mark, some even going as low as \$600.

The Arkansas Power and Light Company recently announced that it had developed a new type of power line to reach isolated rural communities. By the use of smaller poles, adoption of a new transmission line that would stand wider spaces between each pole and use of special transformers, the company is able to construct lines far below previous costs. However, construction costs for lines depend much upon the locality.

It is only by revolutionizing their rules and regulations in regard to line

ELECTRIC UTILITIES ENTER UPON A NEW ERA OF EXPANSION

extensions that the larger utilities have been able to make progress in their expansion programs. The Central Illinois Light Company has now liberalized its extension regulations until it will build lines on a basis of a guaranty of revenue of \$12.50 per month per mile of line construction. The minimum bill for a rural customer, of course, depends upon the number of customers per mile of line, but the minimum is not less than \$2.50 per month. The Illinois Northern Utilities Company and the Illinois Power and Light Company have likewise made great changes in their construction regulations. The Public Service Company of Northern Illinois has recently modified its extension policies by changing from a 60-month to an 80-month plan for the determination of minimum bills. That is, the company requires the revenue from rural customers to equal the cost of the extension over a period of eighty months.

IN the state of New York considerable progress is noted in expansion regulations. Back in 1923 the Adirondack Power and Light Corporation, now a subsidiary of the Niagara-Hudson Company, inaugurated a rural electrification plan under what was called the "Adirondack Plan." Although it was somewhat better than previous practices that preceded it, later plans in that state by various utilities have greatly surpassed it. A comparison of the minimum bills as based on the number of customers of the old Adirondack plan as set against the minimum bills of the Niagara-Hudson and New York State Electric and Gas plans is as follows:

<i>Customers per mile</i>	<i>Adirondack Plan</i>	<i>Niagara- Hudson Plan</i>	<i>N.Y. State Electric Plan</i>
12	\$2.00	\$2.00	\$2.00
8	3.00	2.00	3.00
4	6.00	2.00	3.00
3	8.00	3.50	5.00

Operating units of the Niagara Hudson Corporation adopted during last year a liberalized plan which involves a guarantee period of five years, a minimum monthly guaranty per customer of \$2 up to 1,500 feet per customer and a maximum monthly guaranty of \$4.50 per customer of 2,000 feet. A customer contribution of \$25 is required for each 100 feet of main line extension in excess of 2,000 feet. For a density of two per mile, each customer is required to contribute \$175.

The general rural extension plan of utilities in New Jersey requires that customers on each extension shall guarantee a monthly revenue equivalent to one thirty-sixth of the total cost of the extension. With three customers per mile, the required monthly guaranteed revenue per customer is approximately \$9.30. With five customers, the minimum is \$7.09.

THE Wisconsin Gas and Electric Company has announced it will construct lines to serve rural customers whenever customers guarantee \$4 per month for three years. At the end of the 3-year period, a rate involving a \$2 minimum monthly charge becomes optional.

Four utilities in Virginia, which serve approximately 90 per cent of the electric customers in that state, adopted on December, 1935, a plan whereby rural extensions are made if a monthly guaranty equal to $1\frac{1}{2}$ per cent of the cost of the extension is made.

PUBLIC UTILITIES FORTNIGHTLY

The West Penn Power Company of Pennsylvania has practically the same plan as that used in Virginia. The monthly guaranty of $1\frac{1}{2}$ per cent of the cost of the extension is required. When the total revenue for three consecutive years equals or exceeds the cost of extension, the guaranty period expires. The rate minimum of \$1 per customer per month then is placed into effect.

The plan regarding rural extensions in Tennessee at this time provides for a one tenth of a mile extension should the revenue be at least \$1.80 per month. That is, for a minimum revenue of \$18 per mile rural lines will be built.

The Northern Indiana Public Service Company has recently revised its line extension plan so that it now provides that all guaranteed minimums of \$1.50 per residential customer will apply thereafter. In fact, the plan put into service by this company permits lines to be constructed as a unit so that any customer who uses more than the pro rata minimum requirement will serve to reduce the minimum requirement of other customers on the extension.

Except for the usual small deposit, rural customers of the Arkansas Power and Light Company have not been required to put up any guaranty or make any payment on cost of lines used to serve them. Practically the

same plans as used by the Arkansas Power and Light Company are in force in several southern states.

About 98 per cent of the rural customers of the Alabama Power Company are served at a rate with a monthly minimum charge of \$1.25. All new customers on lines with a density of five customers per mile of line are served at a \$1.25 monthly minimum, and all customers on lines with a density of 3.3 customers per mile of line are served at \$1.25 after the expiration of five years.

THUS, it can be seen that through the liberalized regulations for line construction, many electric utilities have been able to make progress. If the old regulations had been used, probably no success would have been attained.

Since the lowering of rates brings an increase in consumption, the electric industry in this area is adopting various promotional rate systems in keeping with their expansion programs. Actual experiments carried on by a number of companies have shown that consumption has not only been greatly stimulated through a decrease in rates, but has also resulted in slightly increased revenues after the trial period.

Probably the most widely used rate system is the so-called Commonwealth and Southern Objective Plan, which



Q "WITH farm income on the increase, expansion activities of the electric utilities into new outlying areas will be expected to meet with more favorable reception in the future than in previous years. With the introduction of more liberalized rates, the electric industry is entering into a new era of expansion never before witnessed."

ELECTRIC UTILITIES ENTER UPON A NEW ERA OF EXPANSION

was first placed into service on September 2, 1933, by the Alabama Power Company, an operating unit of the Commonwealth and Southern Corporation. Twelve months after the plan was placed into effect by this utility a survey was conducted to see what progress had been made. It was found that the average kilowatt hour per customer had increased approximately 132 over the year period. Although there was a reduction of \$1.12 in the average rate, the revenue per customer had increased \$3.09. Viewing the results from the company's standpoint, it was noticed that its revenue for a twelve months' period was only \$22,000 less than at the time the rate plan was introduced.

Since 1933, two other operating units of the Commonwealth and Southern system in the southern states, the Georgia Power Company and the Tennessee Electric Power Company, have adopted the plan. Each has reported that consumption has been greatly increased, and at the same time the revenues of each unit has not been impaired.

THE Objective Rate Plan, which has been described in previous articles in **PUBLIC UTILITIES FORTNIGHTLY**, provides for increased consumption of current at practically no extra cost to the consumer. As originally adopted, the "immediate" and "objective" rates will continue for a period of three years at which time the "immediate" rate will be eliminated and all customers placed on the "objective" or more liberal rate.

The Alabama Power Company has made further changes providing for the lowering of rates since the intro-

duction of its Objective Rate Plan in 1933.

According to Stephens G. Croom, assistant engineer of the Alabama Public Service Commission, the new rate regulations are as follows:

Coincidental with the beginning of the rural line expansion, and effective September 1, 1935, a revised "E-1" and "E-4" rate schedule for rural service was introduced. The principal change eliminated the two groups, "A" and "B," and reduced the minimum capacity requirements per mile of line from 10 kilowatt hours to 7½ kilowatt hours. The effect of this has been to provide service at \$1.25 initial charge (which includes 5 kilowatt hours) to customers on a line with a density of five or more customers per mile, whereas under the "E-1" rate previously applicable, a density of five customers per mile would have resulted in an initial charge of \$2.75, which included 5 kilowatt hours. You will note that the lines constructed since September 1, 1935, show a density of but slightly less than five per mile. The principal change in the "E-4" rate made effective on the same date raised the kilowatt hours in the initial block from 5 to 15.

SINCE the introduction of the Commonwealth and Southern plan by the Alabama Power Company in 1933, various other large companies throughout eastern United States have adopted plans essentially the same, including Birmingham Electric Company, Texas Utilities Company, Hartford Electric Company, Pennsylvania Power Company, East Tennessee Light and Power Company, Illinois-Northern Utilities Company, Tennessee-Eastern Electric Company, Ohio Edison Company, Carolina Power and Light Company, South Carolina Power Company, Florida Public Service Company, and Tennessee Public Service Company. Major utilities operating in Arkansas, Wisconsin, and New York have also adopted systems based on this plan.

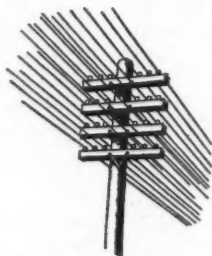
The popularity of the "inducement

PUBLIC UTILITIES FORTNIGHTLY

rate" systems, of course, is based on the theory that customers will be encouraged to use more appliances if rates are lower. Sales of household electric appliances in 1935, which amounted to over \$1,010,310,000, tend to bear out this theory. This increase of 25 per cent over the previous year shows that housewives are at last buying more vacuum cleaners, radios, refrigerators, washing machines, heaters, irons, toasters, fans, waffle irons, and all kinds of lamps. This all

naturally tends to speed up consumption. Progress in this field has only started.

With farm income on the increase, expansion activities of the electric utilities into new outlying areas will be expected to meet with more favorable reception in the future than in previous years. With the introduction of more liberalized rates, the electric industry is entering into a new era of expansion never before witnessed.



Telephone Technique

IF you're going to England, better brush up on your telephone technique or you may have trouble in making yourself understood.

It is reported that after long experimentation by phonetic experts, the British general post office is now ready to instruct the public as to just how to speak over the telephone, and has embodied its advice and admonitions in a pamphlet for distribution to all subscribers to phone service.

The matter has been handled with characteristic and humorless British thoroughness, starting with the proper distance of the lips from the mouthpiece, their position in relation to it, and the speed and modulation of the voice. Rules for avoidance of confusion between "five," "nine" and "eight" and "ought" are given. There is even an alphabet of analogy to be used in spelling out difficult words, beginning with "A as in Andrew," and progressing through "Q as in Queenie" to "Z as in Zebra."

It must be admitted that the conservative English have stolen a march on us in this one respect at least by initiating a badly needed reform. We could use such a system of instruction for phone users to good advantage over here, where it sometimes seems that the only recognized device used to make phone conversations more intelligible is to raise the voice and keep on raising it a notch at a time until the party at the other end either understands or lies politely and says he does in order to keep his eardrums intact.

—COLUMBUS EVENING DISPATCH.



Taking a Look at the Record

THE proceedings of the Congress of the United States contain many shining examples of novel mental and arithmetical processes but probably none more outstanding, judging from the comments of the author, than a congressman's recent conclusion that electric power customers are being overcharged to the extent of one billion dollars annually.

By LUTHER R. NASH

WHILE the title attached to this discussion may recall certain often quoted language of the political arena it should not be inferred that its present use has any direct relation to politics. The "record" in question is the *Congressional Record*, more specifically the issue of June 4, 1936, in the appendix of which, beginning on page 9130, is a speech delivered on June 2, 1936, by a congressman of well-known eloquence.

His subject is the electric power industry, which he characterizes as "the Power Trust—that gigantic octopus that sprawls over the United States, reaches its loathsome tentacles into every home . . . that uses electric energy,"—referred to as "the life blood of an advanced civilization." He undertakes to prove that electric rates are exorbitant and capitalization grossly excessive. He says "these figures cannot be denied; they are based upon the record."

The congressman's conclusions seem to be so inconsistent with com-

monly accepted opinions that it may be of interest to examine their source and the mental or arithmetical processes through which they are developed.

Considering first the question of rates, the congressman calls attention to the fact that he has previously estimated that electric power customers were being overcharged to the extent of \$1,000,000,000 per year, and that his estimate has never been seriously challenged. He now thinks that estimate is too conservative and that the present annual overcharge amounts to approximately \$1,500,000,000 per year, "enough to pay the national debt in twenty years."

IN arriving at this revised conclusion as to overcharges the congressman relies upon the experience of certain well-known publicly owned hydroelectric properties and assumes that the average rates charged by privately owned companies in the United States, regardless of their size, location, and character of their power supply should not be higher than those of the most

PUBLIC UTILITIES FORTNIGHTLY

favorably situated publicly owned hydroelectric property of which he has knowledge. From the annual reports of this property he derives the average rate per kilowatt hour for power "generated and sold." Obviously for any such system the generated and sold kilowatt hours are not identical. In this case the figures which he uses are actually kilowatt hours generated and purchased, from which must be deducted company use and all transmission, conversion, and distribution losses before arriving at kilowatt hours sold. The average losses in transmission and distribution alone are more than 20 per cent of the energy sold and for a far-flung hydro system they would normally be not less than 25 per cent.

FURTHERMORE the revenue figures used include only a certain group of customers, which, while predominant, does not take all the kilowatt hours sold. The actual revenue from all these kilowatt hours included in the congressman's computations is more than 25 per cent greater than the amount used. With these increases in revenue and reductions in kilowatt hours, the congressman's conclusion that $\frac{1}{2}$ cent per kilowatt hour is a fair average price in the United States is not supported by the "record" on which he relies. Nevertheless, when he applies this average rate to kilowatt hours in the United States he applies it to those sold and not those generated. The extent of use of coal or other fuel for generation may also be a factor of importance in the cost of service. When all such factors are given consideration in addition to the two 25 per cent errors referred to, the

validity of the claimed overcharge disappears.

THE experience of kilowatt hours in their travels from point of generation to the consumers is by no means uniform. Some of them travel short distances while others may go hundreds of miles. Some of them go along overhead lines; others through complicated and expensive underground systems. Some of them are delivered in blocks of only a few units monthly; in other cases these blocks may contain millions of units. The varying experience, disposition, and value of different kilowatt hours is so well recognized and so great as to suggest a parallel to the congressman's reasoning, applicable to something entirely different.

The normal annual value of footwear of all kinds produced in the United States is approximately \$1,200,000,000. The number of pairs of footwear sold in a normal year is about 350,000,000. The average price per pair is, therefore, about \$3.45. A particular kind of footwear having rubber soles can be imported into this country and sold at 55 cents a pair. It follows, consistent with the parallel reasoning of the congressman, that there is an average overcharge on all domestic footwear in the United States of \$2.90 per pair, or an aggregate overcharge of over \$1,000,000,000, imposed by "a loathsome and gigantic" Shoe Trust upon every individual in the land (except those who habitually go barefoot).

Although it may be contended that such an illustration is not wholly comparable in logic or character with the congressman's procedure it will, never-

TAKING A LOOK AT THE RECORD

theless, serve a useful purpose in indicating certain obvious flaws in his reasoning.

THE question of overcharge may be approached from an entirely different point of view. The total operating revenues of electric power companies in the United States in 1935 is correctly quoted as about \$1,921,000,000. This revenue is derived from various classes of service, including wholesale lighting and power, sales to railroads and electric railroads and other classes of customers who are quite able to generate power in plants of their own. Many such industries actually do so because of their competitive position. The revenue derived from them must, therefore, be excluded in determining the actual revenue subject to such overcharge or extortion as is claimed. The remaining revenue, after deducting these competitive classes from the total, amounts to slightly more than \$1,250,000,000. Out of their operating revenues all privately owned companies must, of course, pay their taxes and they cannot be charged with willful extravagance in that respect. Those taxes of all kinds in 1935 amounted to more than \$250,000,000. Parenthetically, this amount should be compared with the \$77,555,000 which the congressman estimates as a reasonable amount, assuming that the aver-

age tax per kilowatt hour throughout the country should be no greater than that paid in a certain western state where hydroelectric supply predominates and load factors are exceptionally high.

IF the taxes applicable to noncompetitive revenue above derived are deducted, there remains a balance of slightly over \$1,000,000,000 out of which the congressman's overcharge of \$1,500,000,000 must be taken before any allowances are made for necessary operating expenses and property upkeep, to say nothing of return on investment. Such figures suggest that the electric power companies should cancel all bills to their customers, for whom the congressman is solicitous, and pay them about \$500,000,000 per year for the privilege of serving them.

Turning now to the matter of investment, we are told that the privately owned power companies in the United States are overcapitalized to the extent of \$7,000,000,000, representing "mostly paper, printers' ink, and Power Trust rascality." The method of computing this overcapitalization is interesting, however novel it may appear on close scrutiny. The assumption is made that the capitalization per kilowatt hour in the United States should not be greater than that of the congressman's favorite hydroelectric yardstick. In addition to



Q "THE experience of kilowatt hours in their travels from point of generation to the consumers is by no means uniform. Some of them travel short distances while others may go hundreds of miles. Some of them go along overhead lines; others through complicated and expensive underground systems."

PUBLIC UTILITIES FORTNIGHTLY

again confusing kilowatt hours generated with those sold, involving the error of about 25 per cent previously referred to, he has compared the 1934 yardstick hydro unit capitalization with that of all United States companies in 1932. This may have been an oversight, but it happens that 1932 was the year of lowest kilowatt-hour sales in the United States since 1927 and about 10 per cent lower than the succeeding year from which his hydro yardstick figures were derived, when capitalization has increased by only an insignificant amount.

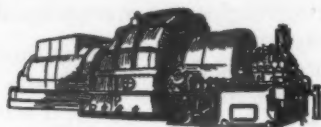
ASIDE from these errors which invalidate the conclusions, it should be remarked that this method of checking capitalization is a novel one, not previously encountered by the writer in his many years' experience in such matters. A more common although still approximate method is to compare capitalization per dollar of annual revenue or per kilowatt of installed capacity.

The electric power companies in the United States had in 1934 an average investment of about \$6.75 per dollar of revenues. The total recorded investment was about \$12,400,000,000. If the investment per dollar of revenue had been equal to that in the congressman's yardstick hydro system the total would have been, not less than \$5,000,000,000 derived from his unique formula, but about \$18,000,000,000, or \$5,600,000,000 in excess of the recorded investment. According to this substitute and more commonly used formula the power companies are undercapitalized to the extent of this \$5,600,000,000 rather than overcapitalized by \$7,000,000,-

000. This difference of \$12,600,000,000 between the two methods, demonstrates the absurdity of blindly relying upon either. If the third and perhaps most common method of approximately checking capitalization is used, namely, cost per kilowatt of installed capacity, it also appears that as compared with the yardstick hydro system the private power companies in the United States are undercapitalized but to only a moderate extent.

THE congressman appears to overlook the fact that throughout the history of regulation the various commissions which determine rate levels have generally ignored capitalization and nominal figures relating to investment, and have fixed rates after consideration of actual cost, cost of reproduction and other pertinent factors which may have no direct or close relation to capitalization. The only noteworthy exception to this general rule is Massachusetts where utility capital issues have been under commission control for more than 40 years and overcapitalization is, therefore, negligible. That many political orators should continue to assume that utility customers are wholly unaware of this long established procedure is an increasing reflection upon the intelligence of these customers.

Furthermore, and what should be regarded more seriously, there is the reflection upon the results of our regulatory policies and methods which underlies the congressman's claims. He would have us believe that in spite of some thirty years of experience with state regulation of utilities during which rates have been steadily and drastically reduced, the companies sub-



Value of Hydroelectric Power Overrated

"THERE is a growing conviction among engineers that the value of hydroelectric power has been very much overrated, particularly in the light of the steadily decreasing cost of steam power production. The unit fuel requirements for such production by public utilities have been reduced 50 per cent within the past fifteen years."

ject to this regulation are still overcharging an average customer to the extent of "two or three times that of his legitimate power bill." This implies a degree of ineffectiveness on the part of the commissions far beyond that which has ever been known from any such public body. If such conduct from those charged merely with regulatory functions existed and were to be condoned, what should be expected of the far more complicated and responsible job of actual operation and management of similar publicly owned enterprises which the congressman obviously favors?

CERTAIN other matters discussed in the congressman's speech are worthy of incidental attention. He quotes certain figures of the cost of transmitting electric power over long distances, purporting to come from a report of Army engineers. More recent figures with competent and unquestioned engineering background indicate that the overall cost of such transmission, including the power losses necessarily involved therein in

which the carrying charges on the generating capacity assignable to such losses is a necessary part, are more than double the figures quoted in the speech.

Reference is also made to "the great wealth of hydroelectric power in our navigable streams that throughout untold centuries have been running wasted to the sea," this being characterized as "more valuable than all the gold fields, oil wells, and diamond mines the world has ever known." There is a growing conviction among engineers that the value of hydroelectric power has been very much overrated, particularly in the light of the steadily decreasing cost of steam power production. The unit fuel requirements for such production by public utilities have been reduced 50 per cent within the past fifteen years. This in itself has served to decrease the economic value of all hydroelectric projects, and it is noticeable that private undertakings of this character in recent years have been limited to those which have shown exceptionally favorable characteristics as to unit investment and ac-

PUBLIC UTILITIES FORTNIGHTLY

cessibility to market. Each such development, based on careful engineering and economic surveys, added to those already in existence means that remaining undeveloped projects are less valuable as economic power sources.

RECENT engineering studies of the relative values of hydroelectric and steam power and costs of power transmission (reviewed briefly in the FORTNIGHTLY of June 18, 1936) throw very interesting light on this situation. The construction and operating costs of steam plants used therein are by no means as low as the record established in most modern plants of large size, and this record does not represent the ultimate in steam power production accomplishments.

It appears that in order to compete in overall unit costs with a modern steam plant located at coal mine mouth, a hydro plant having the same output and 50 per cent load factor must have a cost, exclusive of transmission facilities, not exceeding about \$100 per kilowatt of dependable capacity.

Nearly all hydroelectric plants require transmission of power for fairly long distances to their respective markets. On the other hand, steam power plants can rarely be located at mine mouth because of lack of condensing water.

The studies in question reach the conclusion (surprising to some engineers as well as many others but confirmed by earlier surveys) that it costs more to transmit electric power over transmission lines than to transport the equivalent amount of energy in the

form of solid, liquid, or gaseous fuel over an equal distance.

AFTER making allowance for the relative costs of transmitting energy and transporting fuel it appears that in order to compete with a modern steam plant having a fuel haul of 200 miles, a hydro plant transmitting power to market over a transmission line of equal length must have a cost of less than \$90 per kilowatt of dependable capacity. This is far below the estimated cost of possible projects not yet undertaken and is less than one third of the average cost of the important projects which have been completed or are now under construction by Federal agencies.

Among the congressman's favorite publicly owned yardsticks is a municipal plant in a city of not far from 100,000 population. He refers to the cost of electric service in this city as the lowest in the United States in spite of its size. As a matter of fact, cities of such moderate size have a lower cost of electric service than either larger or smaller cities. Larger cities require increasing complications in the way of transmission lines and substations in addition to the conventional distribution networks, and the cost of their underground distribution is far greater than that of overhead lines which prevail in the smaller cities. Small cities, although having overhead lines, have a customer density so much lower than the larger cities as to involve higher distribution costs. The unit power investment and production cost in such communities is also much higher.

THIS same municipal plant is used not only to confirm the claim of

TAKING A LOOK AT THE RECORD

excess revenue to the extent of \$1,500,000,000 already referred to but also as the basis of a further estimate that if the per capita consumption throughout the United States were as great as it is in this particular community this excess cost would then be \$5,726,600,000. This estimate assumes that the rate for such increased consumption would remain the same as the present average. Experience as well as conventional rate forms show that this assumption is absurd, as rates have steadily fallen in the past because of increased use even where no changes in actual rate schedules have been made. This applies to all classes of service but may be illustrated by a residential customer who changes from a nominal monthly consumption of 25 kilowatt hours, for lighting and incidental appliances which at 6 cents costs him \$1.50, to 175 kilowatt hours through the addition of electric cooking and refrigeration which at 3 cents per kilowatt hour under the same rate schedule costs him \$4.50 additional. His total bill of \$6 shows a reduction in average costs per kilowatt hour of more than 40 per cent.

If illustrations were drawn from other classes of service, particularly those having service or demand charges, the increment cost of additional consumption, usually involving increased load factor, would be a sub-

stantially smaller percentage, and it may be reasonable to assume that the average of all such increment costs is not far from 50 per cent of the previous costs of more restricted service.

SEVERAL pages of the congressman's speech are devoted to a breakdown by states of the alleged overcharges for electric service, these overcharges being derived from a consideration of rates from certain publicly owned hydro systems. The basis of these computations is not disclosed, and, as far as the writer knows, no statistics have ever been prepared which would permit accurate computations (involving four significant figures) of the scope and kind which this tabulation purports to give. Such computations would require an analysis of the monthly consumption for the year in question of every customer in every one of these states. Such computations have been undertaken for single companies or certain classes of their service at a large expenditure of both time and money, but a similar national survey would be practically prohibitive. It should also be noted that the aggregate consumption of electric power and light customers in 1934 as shown by official records is about 25 per cent greater than the aggregate of the figures for the several states used in the congressman's compilation. If the figures of



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PUBLIC UTILITIES FORTNIGHTLY

existing revenue which he uses are correct, his claims as to adequate revenue are correspondingly too low without consideration of other errors. Furthermore, the aggregate of the overcharges, based on the highest figures of his favorite yardstick, are substantially less than his earlier total estimate of \$1,000,000,000.

THE statement is repeatedly made in this speech that its conclusions can be readily checked by "any school boy with reasonable intelligence." If any such school boy, without questioning the statistical basis of the conclusions, wishes to make his own calculations and draw his own conclusions he should avoid the arithmetical and

other errors referred to herein and be sure that the comparative data which he uses apply consistently to identical years. Presumably such a school boy will not be able accurately to evaluate the reasonable differences in unit costs between hydro service of exceptional stability in highly developed areas and the average of all unit costs throughout the United States in communities with a population range from a few hundred to several millions, with generating and distribution facilities of widely varying characteristics and efficiencies. In the absence of such evaluation, this alternative conclusion is obvious, namely, that the congressman's findings are lacking in both logic and statistical accuracy.



Taxation without Deliberation

"CONGRESS pliant from the beginning, and at the end frantic to get away from Washington, enacted into law in its closing hours one of the most iniquitous taxation measures ever adopted by a professedly democratic assemblage.

"The sting of administration whips put through a bill which embodies every vicious principle contained in the first raw draft submitted to the House by a Treasury Department infatuated with the novelty of an untried and demonstrably unsound social theory.

"True, the bill as finally enacted into law is not so extreme as the original proposal, but it differs only in degree. Thrift and prudence are penalized by a high tax on undistributed corporate income. The law carries within itself its own criticism because it exempts banks and insurance companies from the penalties. It says, almost explicitly, 'Prudent provision against a rainy day is good and sound in fiduciary institutions, but we shall fine all other enterprises that follow such principles.'

"Elected representatives of the people voted for this bill without knowing what is in it. Most of them have not even read its complicated provisions; in the House, no printed copies were available. The kindest explanation is that they trusted their conference committees; a less charitable interpretation is that they were moved by considerations of partisan expediency."

—RAYMOND MOLEY,
Editor, *Today*.

Financial News and Comment

By OWEN ELY

National Power & Light Company

THE National Power & Light system, affiliated with the Electric Bond & Share group, has total assets of about \$587,000,000, according to the December 31, 1935, balance sheet. It ranks as the third largest of the four domestic systems affiliated with Electric Bond & Share Co., being topped by American Power & Light and Electric Power & Light and followed by American Gas & Electric. It serves electricity, gas, transportation, etc., to a total population of some 3,546,000 in 1,125 communities in the states of Alabama, Texas, North and South Carolina, Tennessee, and Pennsylvania. In 1935, 85 per cent of revenues was obtained from electric power and light sales, 7 per cent from gas, 7 per cent from transportation, and 1 per cent from miscellaneous sources.

The company paid dividends continuously throughout the depression on both preferred and common stocks, although disbursements on the junior stock have been small in recent years. Dividends on the \$6 preferred stock, which is outstanding in comparatively small amount (279,716 shares compared with 5,456,117 shares of common), were earned nearly 4 times in each of the past three calendar years, compared with 8 times in 1929; interest charges and preferred dividends combined have been covered with a margin of about one fifth in recent years, against 1.57 times in 1929.



Earnings on the common shares dropped from \$2.17 in 1929 to 85 cents in 1935 (compared with the same figure in 1934). Dividend payments, which had not been raised above \$1, were maintained at that figure through 1933, but gradually dropped to the current rate of 60 cents. Continuance of the common dividend was doubtless due to the strong cash position which the system has enjoyed; at the end of last year, cash, time deposits, and marketable securities aggregated about \$43,000,000, compared with total current liabilities of less than \$25,000,000.

Nineteen hundred thirty-six earnings have been somewhat disappointing. In the quarter ended June 30th, 23 cents was reported on a system basis, compared with 17 cents last year, although on a corporate basis only 10 cents was earned against 17 cents last year. In the twelve months ended June 30th, 89 cents was earned against 82 last year, but the corporation received only 41 cents on its investments compared with 78 last year. Presumably, however, the system figures are a better gauge of dividend policy than the corporation's actual income from subsidiaries, and on the former basis common dividends were covered with about a 50 per cent margin in the June quarter.

The \$6 preferred stock is currently quoted on the Curb at about 86, to yield 7 per cent; the common, on the Stock Exchange, sells around 12, to yield 5 per cent. The range for the common this year has been 9½-14½.

While the system might be slightly

PUBLIC UTILITIES FORTNIGHTLY

vulnerable from a holding company viewpoint with respect to geographical distribution of subsidiaries, all of its principal subsidiaries are controlled through ownership of over 99 per cent of the common stock, so that merger of the entire system could perhaps be effected without great difficulty. Subsidiaries include Birmingham Electric Co. (Alabama); Carolina Power & Light Co. (North and South Carolina); Roanoke River Power Co. (a transmission company in West Virginia); Tennessee Public Service Co., Memphis Power & Light Co., West Tennessee Power & Light Co., and Holston River Electric Co. (all serving Tennessee); Houston Light & Power Co. (Texas); and Lehigh Power Securities Corporation (Pennsylvania). All are operating companies without subsidiaries, with the exception of Lehigh Power Securities Corporation, which owns most of the preferred and common stocks of Lehigh Valley Transit Co., and all the common stock and certain other securities of Pennsylvania Power & Light Co. The latter in addition to its own properties (acquired by merger or otherwise) controls five local operating companies (including one jointly controlled by a subsidiary of American Gas & Electric Co.).

About one half of the system revenues are obtained from the Pennsylvania Power & Light group, about one seventh each from the Tennessee, Carolina, and Texas properties, and somewhat less from Alabama. The relatively poor system showing for the twelve months ended June, 1936, as compared with some other utility systems, seems due largely to the 4 per cent decline in net for the important Pennsylvania group, resulting from rate cuts, weather conditions, and increased costs. Other subsidiaries made a generally better showing: Birmingham net gained about 42 per cent, Carolina 19 per cent, Memphis 28 per cent, and Houston 2 per cent, while Tennessee Public Service (a smaller company) dropped 15 per cent.

How much will TVA and PWA affect future earnings of the system?

Possibly one third of the company's gross is from territory within the TVA sphere. The cities of Knoxville and Memphis, Tennessee, have voted approval of bond issues for acquisition or construction of electric distribution systems within their city lines. Tennessee Public Service Co. agreed to sell to TVA for \$6,088,000 its transmission and distribution system (except a transmission line to be transferred to American Gas & Electric Co.), retaining its transportation properties. The offer later became involved in litigation and as a result the TVA withdrew from the negotiations and the city of Knoxville, in March, 1935, began construction of a \$2,600,000 competing municipal distribution system to be financed with PWA funds. The company secured an injunction against such construction, and the issue is still before the courts.

Similarly, the proposal for a Memphis municipal plant, involving some \$9,000,000 of PWA gifts and loans, has been tied up in the courts. Federal agencies have also sought to promote hydroelectric projects on the Brazos and Colorado rivers in Texas, which if consummated might have some effect on Houston Lighting & Power Co., but the latter and other companies have obtained restraining orders.

It seems unlikely that Birmingham (while within the range of TVA activities) will be much affected, at least over the near term. The proposed Federal gifts and loans to Bessemer and Tarrant City for municipal plants have been enjoined by the supreme court of the District of Columbia.

Carolina Power & Light Co. seems unlikely to be affected by release of Norris dam power in November, although eventually it might suffer from such competition. The PWA has sought to finance the Santee-Cooper project involving a large hydroelectric generating and transmission system, which would extend over a widespread territory in South Carolina, but this has been held up in the courts.

It is not clear whether funds have been earmarked by the PWA for com-

pletion of these various projects if and when its powers are determined by the courts. Since the future of TVA and PWA are to some extent interwoven with the presidential election, as well as final opinions by the Supreme Court in cases now pending, it is impossible to gauge the final effects on the company's subsidiaries.

"Beating the Gun" on New Issues

THE Securities & Exchange Commission's New York office is said to have obtained evidence that some sixty Wall Street firms have been "beating the gun" in offering new security issues, over a 5-months' period. The practice is forbidden by § 5 of the Securities Act of 1933.

Under the present régime there is a 20-day interval between the date of filing the registration statement of a new security, and the date when it becomes "effective." In other words, the issue during that period is presumed to have passed the scrutiny of the SEC (as to whether all information required has been filed) although every prospectus contains on its front page in capital letters the statement that the securities involved have not been approved or disapproved by the commission and that "it is a criminal offense to represent that the commission has approved these securities or has made any findings that the statements in this prospectus or in the registration statement are correct."

If it is really true that the SEC makes no effort to check the accuracy of the prospectus or registration statement, or to approve the issue in any way, why should so long an interval as twenty days be required, particularly for refunding issues, which (thus far at least) have in almost all cases been quickly absorbed by institutions or high-grade investors? Might not an interval of a week or ten days be just as logical, at least for large issues of high calibre? The price and yield on such issues must be closely gauged in reference to market

conditions. A 20-day interval makes this difficult to figure in advance, for much can happen within that period with respect to additional large offerings (which might "upset" the market), irregularities in the government bond market, international gold shipments, etc. With a shorter interval the margin of uncertainty would be reduced.

It is true that an amendment to the registration, giving the offering price, underwriting commission, names of underwriters, etc., can be filed up to three days before the elapsing of the 20-day interval. While the amendment has been resorted to in a number of cases and has permitted some degree of elasticity in gauging bond-market conditions, its use does not fully solve the "timing" problem.

An important underwriting house recently attempted to find a way out of this difficulty by initiating a new practice under which the 20-day period would be allowed to elapse and a contract for the underwriting signed at some later optional date, so as to permit more accurate price fixing and timing. This practice was used with the permission of the SEC in the offering of one large utility bond issue. But the SEC, which permitted this initial experiment, was reported August 12th as having decided, although the plan was successful in the one instance, that it was not "in the public interest" to permit the program to be followed as a general rule. According to press reports, the SEC feared the possibility of illegal advance trading on long-delayed popular issues, but still has an open mind on the whole question.

The 20-day interval has undoubtedly aggravated the practice known as "beating the gun." This is one of the ancient evils with which the underwriting fraternity has always been plagued, and the Investment Bankers Association and other organizations have struggled to cope with it long before the SEC came into being. Unfortunately it has always been difficult to draw a careful distinction between "contacting buyers" or "educating them," and of actually offering them a new issue.

PUBLIC UTILITIES FORTNIGHTLY

It has recently been recognized as legitimate practice to show customers known to be interested in impending issues the so-called "red-herring" prospectus (an advance proof of the prospectus bearing a warning imprint in red letters) or the *Standard Statistics*' "blue card" giving an advance description of the issue based on the registration statement. Whether or not it is permissible to advise a customer informally that an attempt will be made to "take care of him" for any desired amount of bonds is perhaps debatable; but undoubtedly some firms, due to the sharply competitive struggle for business, have offered bonds "firm" and virtually completed the transaction (except for sending confirmation) prior to the legal offering day. Presumably it is the latter practice which was condemned by the SEC in its recent complaint. According to the *Times*, offenses were said to range from "flagrant to minor and apparently unintentional infractions of the law." It seems evident that the whole subject needs clarification, but judging from the SEC's procrastination thus far with respect to issuance of rules relating to price-pegging of new security offerings and other matters, it appears likely that the present unsatisfactory conditions may continue indefinitely.

Points which might be cleared up if the SEC is so minded, are: (1) to what extent the "red herring" prospectus may be used—whether it may be mailed to investors *in advance* of their request for information, or whether such practice would constitute "offering the bonds"; (2) whether the *Standard Statistics*' card could be so used, if sent without any comment; (3) if a customer definitely asks for bonds in advance of the offering date, whether it is proper to make any suggestion that an effort will be made to secure desired bonds, or whether an entirely negative reply must be given.

Salesmen servicing out-of-town customers in the Mid-west or far West are greatly handicapped under the present arrangement. If a New York house wishes to sell bonds on the day of offer-

ing to a man in San Francisco, it would normally be unable to reach him by wire or phone until one o'clock on the offering day, whereas most successful issues are completely sold by 9:30 or 10 o'clock on the official day. While the fact that most issues immediately go "out of the window" (Wall Street slang for quick and successful retailing) may be due in part to the fact that a good part of the issue has already been informally placed by "beating the gun," nevertheless in any event a conscientious salesman catering to out-of-town clients is handicapped by the time factor. His only legitimate recourse at present would seem to be to mail to those customers he knows to be interested in the issue, the *Standard Statistics*' blue card—without comment on his part—in order that at least a quick response may be forthcoming to his inquiry on the day of issue.

Under the old English system, it used to be reported that "queues of investors" lined up at the offices of their bankers to obtain allotments of new issues. In this country we went to the opposite extreme in 1929 in developing high pressure bond salesmen. The present system under the SEC is somewhat of a compromise between the two ideas. If Federal authorities wish to avoid long-continued friction with underwriting houses, the rules should be adjusted to conform to experience. Barring such adjustments, many of the smaller houses may continue to "cut corners" in their efforts to make a livelihood, with the result that legitimate houses and honest salesmen will be handicapped and investment banking as a whole injured thereby.

June Earnings Reports Continue Favorable

THE following figures summarized from press reports of consolidated system earnings statements for the twelve months ended June 30th, are in many cases subject to annual audits, tax adjustments, etc. (Many reports state

FINANCIAL NEWS AND COMMENT

that no provision has been made for the new tax on undistributed taxes):

Consolidated Gas, Electric Light & Power Co. of Baltimore earned \$4.62 on the common stock, a gain of about 12 per cent over last year. The gain for the quarter ended June 30th was 10 per cent.

Electric Bond & Share reported 12 cents a share earned on its common stock, against 17 cents last year; in the June quarter earnings were less than 1 cent, compared with 3 cents last year. Liquidating value of the common stock based on closing prices of the company's investments as of June 30th was \$33.40 a share; the gain in utility stock prices after that date carried the liquidating figure close to \$40, according to Dow Jones. The company remains in strong financial position, with cash, time deposits, U. S. government and miscellaneous short-term securities amounting to over \$36,000,000, against total debts of less than \$4,000,000.

Engineers Public Service Co. earned \$5.75 a share on its preferred stocks, compared with \$2.20 last year.

Associated Gas & Electric Corporation reported net profit of \$5,071,008, but this did not include nonrecurring expenses in connection with various investigations and litigation.

United Gas Corporation earned \$6.14 on its \$7 second preferred stock, against \$1.28 last year; for the latest quarter the dividend was fully covered and 1 cent a share on the 7,818,959 shares of common stock was earned.

Consolidated Edison of New York reported \$1.97 a share, against \$2.10 in the previous year. (June quarter net was 54 cents against 48 cents last year.) The company on July 28th declared a dividend of 50 cents on the common stock against 25 cents a share paid in the five preceding quarters. However, the payment was not designated as a regular quarterly dividend.

American Light & Traction reported a gain in net income of about 33 per cent, and Continental Gas & Electric a gain of about 58 per cent.

United Light & Power Co. earned 5

cents per common share, against \$1.50 on the preferred stock for the previous twelve months.

United Gas Improvement reported \$1.07 per share, against \$1.13 last year; the company's income from Public Service Co. of New Jersey is smaller than formerly.

Electric Power & Light Co. reported net income of \$5,351,245, compared with a loss last year of \$222,218.

American Power & Light Co. reported \$5.25 per share on the two preferred stocks, compared with \$3.33 last year.

American Gas & Electric Co. reported \$2 earned on its common stock, against \$1.78 last year.

Pacific Gas & Electric Co. earned \$2.37 a share on the common stock, compared with \$1.60 last year. The company stated that substantial reductions in taxable net income resulting from writing off bond discount and premiums will (it is anticipated) make it unnecessary to provide for any surtax on undistributed profits.

Columbia Gas & Electric Corporation reported 51 cents a share on the common stock, compared with 26 cents in the previous year. In the six months ended June 30th about 45 cents was earned, against 36 cents; the second quarter, seasonally poor, showed 5 cents, compared with 8 cents last year.

Interborough Rapid Transit Co. for the fiscal year ended June 30th reported a net loss of \$5,580,821, compared with \$4,867,309 for the preceding year. These figures are after deduction of the full Manhattan 5 per cent dividend rental (payable if earned.) The deficit, as usual, was due to the loss from the Manhattan Railway division, since the subway division had a net profit of \$4,155,287. It is understood that the two "divisions" do not effect a complete and accurate separation of the I.R.T. and Manhattan operations, however; such figures would be of great interest if obtainable.

Cities Service Co. in the quarter ended June 30 reported net of \$1,677,153 (before reserves for contingencies), compared with \$1,454,002 last year.

PUBLIC UTILITIES FORTNIGHTLY

Cities Service Power & Light for the same period earned \$890,018, a gain of about 46 per cent over last year.

Arkansas Natural Gas Corporation and subsidiaries in the quarter ended June 30th reported net income of \$1,078,731, compared with \$448,969 last year.

Effects of Weather on Electric Costs and Output

THE *New York Times* weekly index of electric power output continues to make an excellent showing, although there has been a slight recession from the peak figure of 104.9 for the week ended July 18th to 103.6 for the week ended August 8th. The 1936 high compares with the all-time high of 105.9 established about the middle of 1929.

Since few utilities issue monthly figures, and the weekly kilowatt hour production statistics reported by the *Wall Street Journal* for a few leading systems are not very complete, it is difficult to analyze possible effects of the current drought upon corporation earnings. Companies in the drought area, which are normally dependent upon hydroelectric power and which may have to use stand-by steam systems or purchase power from other systems, may make a temporarily poorer showing as to net earnings, unless there are offsetting factors.

The *New York Times* in revising its weekly indexes of business activity recently issued a descriptive pamphlet from which the following is quoted as regards 1936 weather effects on the industry:

The period from January to February was one of declining business activity, as indicated by other business indices, but the effect of the subnormal temperatures of the period was to increase the use of electric current for heating purposes. After temperatures rose above normal, the power index reacted to a lower level. Another shorter period of subnormal temperatures in April caused a somewhat erratic rise in the power index. In the summer abnormal temperatures have a similar effect because

of the increased use of electric current for refrigeration.

No method has yet been devised for correcting the power index for the effect of weather changes. The problem is not always as simple as might be suggested by the figures. We are, however, accumulating data necessary to study the problem, and it may be possible to work out some solution when the figures are available over a sufficiently long period to establish the relationship on a mathematical basis.

Midsummer Dullness in Security Financing

IN the fortnight ended August 14th only one small piece of utility financing appeared, \$1,000,000 Public Service Co. of New Hampshire first 3½s of 1961, offered at 104½ by a syndicate headed by Halsey, Stuart & Co., Inc. However, \$35,000,000 Cincinnati Gas & Electric first 3½s of 1966 may be offered August 26th by a Morgan Stanley & Co. syndicate, and \$28,000,000 Louisville Gas & Electric first and refunding 3½s of 1966 are scheduled for offering September 2nd by a group headed by Bancamerica-Blair Corporation. Offering dates for three other pieces of utility financing registered some time ago—\$17,500,000 New York State Electric & Gas 4s of 1965, \$9,000,000 Central Maine Power first "H" 4s of 1956, and \$6,000,000 Broad River Power first 4½s of 1966—remain indefinite.

An offering of 40,393 shares of Cleveland Railway Company common stock by Hayden, Miller & Co. and Otis & Co. is set for August 24th.

Seven million dollars Central Vermont Public Service Corporation 3½s have been awarded on competitive bidding to Halsey, Stuart & Co., Inc., but the exact date of offering has not been reported.

Gulf States Utilities Co. has applied to the Federal Power Commission for authority to sell \$17,300,000 first and refunding bonds of 1966 and \$4,000,000 unsecured debentures of 1946. Both issues will be dated October 1st and will probably bear coupon rates of 4 per cent and 4½ per cent respectively.

What Others Think

Excerpts from the Hearings on the Proposed Control of the Mississippi Valley Flood Waters

LAST spring, a subcommittee of the Senate Committee on Agriculture and Forestry held hearings on a bill introduced by Senator Norris of Nebraska (S. 3524). No action was taken on the bill, which thereby automatically died with the adjournment of the 74th Congress. However, in the course of these hearings (the transcript of which was later made available in printed form) much testimony of interest was developed concerning various phases of Federal and private company operations in the field of hydroelectric development,

and the related problems of navigation, flood control, and soil conservation.

Interest in this testimony was not confined to the particular proposal before the subcommittee to developments in the Mississippi valley. On the contrary, many of the views expressed were broadly applicable to problems in other sections of the United States. In addition, the dialogue form of the testimony fairly reflects opposing viewpoints. Accordingly, the reviewer has selected, under subtitles, various excerpts of such general interest for reproduction:

Little Waters v. Big Dams

(Testimony of Morris L. Cooke, Rural Electrification Administrator)

IN my work during the last three years I have had the privilege, the opportunity of listening to men from all parts of the country and specialists, experts, in many different lines; and it seems to me that the country is face to face with the greatest crisis in its history, floods and dust storms, and the fact that on February 24th of this year, I think it was, New England was practically covered with red snow, something that has hardly been mentioned in the newspapers. We could multiply the illustrations of what is happening to us as the result of two things: The type of agriculture and—I don't know what the technical term for it is, but the character of our rainfall. Through the necessity for building up cash crops, we have gone to a plowed and cultivated agriculture that lays bare our land to the evil effects of quick, heavy downpours, and it seems to me—what I say now is only by way of emphasis—it seems to me like playing at blocks when we devote too much time to the building of dams, and in certain parts of the country practically every dam that has been built will be silted to the level within a very short time.

The same thing applies to navigation. So that unless I thought this bill adequately provided for studies, not only studies but works, through this region, which would be the best effort that the people of this country can make

toward stopping the ravages of what somebody has called the "earth disease," I would not only not take any interest in this legislation, but I would have very little interest in any legislation.

This country is in the situation of an individual who is well gone in some fatal disease like tuberculosis or cancer. We have the disease. An individual who has such a disease and goes to a doctor and follows his advice has a good chance of getting out of it, outgrowing it. Now we have been to the doctor and the doctor has told us that we have this certain disease.

The United States of America is not a permanent country in the sense that England, for instance, is a permanent country, and we have never hastened to a possible doom any faster—no other nation has ever hastened to a possible doom faster than we are doing it today. You take in North Dakota alone, in the years from 1920 to 1932, 10,000,000 acres were put under the plow and the land either plowed or plowed and cultivated.

I have here, and I am going to offer for the record, two pamphlets that were privately printed some years back. I don't know that they are even dated—yes; 1917 is one and the other has no date—two papers by a distinguished engineer named Arthur J. Mason. He was one of the leading consulting engi-

PUBLIC UTILITIES FORTNIGHTLY

neers of the United States Steel Corporation. About the time of the war he retired and bought a place outside of Chicago and established on it a small golf links, and one of the first times he struck a ball there was a cloud of dust went up in the air and he asked himself the question: "Why?" And that led to his building a series, two series of test pits across the state, one inside a railroad right of way that had never been touched and the other outside of that right of way that had been under cultivation in corn for some 30 or 40 years, and the depletion, the mechanical depletion of the soil that had been planted to corn was such that when platted on a curve it spelt 755 years of life to that district. And of course the reports of our own Department of Agriculture and the soil erosion service bear that out. About half of the state of Illinois is now, if not submarginal, it is approaching that.

May I just at this point read the title of these papers into the record? The first one is "Some Studies in Agriculture by a Non-farmer," a paper read by Arthur J. Mason (deceased) at the Chicago Literary Club in March 1917.

The other is "Is the United States a Permanent Country, Like North Europe?," a paper read by Arthur J. Mason before the Chicago Literary Club in April 1920.

Senator NORRIS. Right there, you referred, Mr. Cooke, to the fact that in your judgment this was not a permanent country like England, for instance. Why? Tell us the difference. Why is England permanent and why is this country not permanent?

Mr. COOKE. You are familiar with the English climate, of course, Senator?

Senator NORRIS. Yes.

Mr. COOKE. It is always raining there, or near raining. There is a constant precipitation, but they hardly ever get a heavy downpour. That is one side of it. The other side of it is that England and the Northern European countries have what we call, for lack of a better term, a "sod" agriculture. The ground is covered with sod. It has a grass covering.

So you have those two factors over there that make for permanence, the type of precipitation, and the character of agriculture. Now, we have just the opposite here. We have in most parts of this country heavy downpours. In our eastern cities we have to build sewer systems that take care of 6 inches of rainfall in five minutes.

Mr. COOKE. There was a period last spring when I didn't hold any public office, and this conviction as to the gravity of our situation had been borne in on me, so I took that as the occasion for writing a paper called "Water Planning for the Nation," read on May 7, 1935, before the Fifty-fifth Annual Convention of the American Water Works Association.

Mr. COOKE. I was going to quote one sen-

tence from that paper which summarizes my own views. I am abbreviating a bit:

"As matters now stand, and with continuance of the manner in which the soil is now being squandered, this country of ours has less than 100 years of virile national existence. If that represents a reasonably accurate statement, it is vastly more significant that we have probably less than 20 years in which to build up the technique, to recruit the fighting personnel, and, most difficult of all, to change the attitude of millions of people who hold that ownership of land carries with it the right to mistreat and even to destroy their land, regardless of the effect, on the total national state."

Senator NORRIS. Yes; you are getting down to brass tacks; but you are getting into a field where those who don't want to change the Constitution and who want to enforce it in its literal sense would prevent any development. In other words, you have presented the idea there, Mr. Cooke, that a man—and I am not disagreeing with you at all, but I think we have to come to it—you are presenting the idea that because a man owns 160 acres of land he doesn't owe anything to the public and that he can handle it just as he pleases, but we are coming to the time when there are some things in which the public has an interest, preponderant interest, although he may have the legal title to the land.

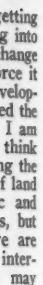
Mr. COOKE. This country will not continue a virile national existence unless we can do something to save the fertility of individual plots now held in fee simple.

May I illustrate? Feeling that our attention since 1720 has been centered so largely on the lower Mississippi and on large bodies of water, great waters, the building of dams in them, that we had, almost without knowing it, grown away from the type of waters that built this country up, little waters, headwater streams, ponds on individual farms, and so, with the collaboration of Mr. Bennett and Mr. Tugwell, this pamphlet—you have doubtless seen it—was brought out recently, called "Little Waters: Their Use and Relation to the Land."

Senator NORRIS. The President sent that in his message to Congress on that subject.

Unless we can save our little waters—the policy, Mr. Chairman, in the past has been to slick the path of water to the sea. That has been the engineering background of all our work, to get it off the land, drain it, throw it off, carry it away through concrete culverts, and then when it gets down in the big streams, build levees, do everything possible to get it down to the sea, get it out of the way. In this little pamphlet of mine I suggested another slogan taken from the football field, the teams 2 yards from the goal and the people that are defending the goal and the thousands in the grandstand just unite in the cry "Hold it. Hold it. Don't let them pass."

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it and do it very quickly, and it seems to me, Senator, that your question . . . when you asked for the storage capacities of these larger dams, is a rather academic question. . . . If these disastrous floods are to be stopped and if the dust storms and the carrying away of our soil is to be gradually retarded it will be because every field—our agriculture must be changed so that every field becomes a storage

PUBLIC UTILITIES FORTNIGHTLY

area. Only in that way can we stop this disease.

Senator NORRIS. Now, Mr. Cooke, I am not disagreeing with that idea at all; in fact, I am a believer in it, yet that approaches this great water problem from one side. This bill approaches it from the other side. If this bill were carried out completely it would ultimately reach all those problems.

Mr. COOKE. Absolutely. I am reading that in the bill. The words are there if the meaning is there.

Senator NORRIS. At the present time these damages that occur from floods every year somewhere, and sometimes do terrible damage, can be stopped a great deal by the building of storage reservoirs, and this bill carries out that idea. That will prevent an immediate damage that occurs all the time through floods. Of course, to carry it out right and make it complete we would go to the source of all water, whether it falls on the field and you hold it there, or whether it comes down a mountain channel and you hold it there. The object after all is to hold all the water, let it do good in upper channels; save it from doing damage in the lower reaches where so much water comes together as to do damage. . . .

Senator NORRIS. That was the object I had in view in preparing this bill.

Mr. COOKE. I don't believe the American people will pay the ultimate bill for saving this country unless it can be done in the way that they will call "economical," sound economics. . . .

So we will never take care of these head-water streams, we will never build these minor

reservoirs, many of which have no power in them, for instance, unless we show how the water, once being stored either on the ground or below the surface, can be used in an economic way for building up agriculture and otherwise improving the level of living. That is what I mean by saying that I think the emphasis of the bill is more downstream than I would have it. I think the words are all there but if we spent \$500,000,000 a year in building big dams and big reservoirs, and did it for twenty years, Mr. Bennett tells me that over a sweep running from North Carolina around to Mississippi there isn't a dam that either has not already silted up to the level, and some of them above the level, because now when the dam is silted up to the top they put in a dashboard so as to try and get a little power out of it—there isn't one of those dams that is not doomed, not doomed in a far-off time like seventy-five years, but more or less immediately doomed. He also tells me that he has exhibits where he has built dams upstream, these little waters that we have not been in the habit of considering, that have brought back streams at great distances that have been dry for years, brought back springs.

You use the words "provide for the restoration and preservation of the water levels in the Mississippi valley." That word, I think, should be "water table." Take the state of Missouri, for example. Over a large part of Missouri the water table has fallen 9 feet in a very few years. In North Dakota it has fallen 16 feet, and unless we learn to hold these waters and build up that water table it is deserts on the march.

Injunctions

(Testimony of C. W. Kellogg, Chairman, Engineers Public Service Co.)

SENATOR NORRIS. By the way, do you know how many injunctions have been issued by the various courts, state and Federal, against the TVA from selling power, or against the municipalities from buying it?

Mr. KELLOGG. No; I don't know the total number.

Senator NORRIS. You know that, as a matter of fact, in pretty nearly every case they were met with an injunction, don't you?

Mr. KELLOGG. I know this, Senator, that I think the putting up of 45 per cent through the PWA as a gift to municipalities to compete with utility companies is a much less justifiable procedure than the TVA.

Senator NORRIS. That may be, but you don't object to that 45 per cent if it is to build a sewerage system, do you?

Mr. KELLOGG. As a taxpayer I do.

Senator NORRIS. You object to all of them?

Well, there is a reason why you should, if you want to. That is a position anyone has a right to take; I concede that. But you must remember that in the PWA grants one of the objects was to employ some of the unemployed, and they were required often not to get the most efficient labor but to take their labor from the rolls of those who were on the unemployed list. In other words, they were not free to employ their labor wherever they could get it.

Mr. KELLOGG. I will say this, Senator: While I realize there may be some color to the pretext of selling power that results from the performance of Federal functions, I cannot see any excuse for the Federal government going out and handing as a free gift 45 per cent of the cost of a plant to go in and deliberately compete with citizens of the country.

WHAT OTHERS THINK

Public v. Private Financing and Taxes

(Testimony of C. W. Kellogg, Chairman, Engineers Public Service Co.)

SENATOR NORRIS. You referred to the Hydroelectric Commission of Canada as having paid off during these years that it has been in operation something over \$31,000,000 of its investments.

Mr. KELLOGG. About 10 per cent; yes.

SENATOR NORRIS. Do any of your clients do that? Does the Alabama Power Co., the Columbia Gas & Electric Co., do any of them do that? Do they reduce and pay off their capitalization?

Mr. KELLOGG. They pay off their bonds, where they have sinking funds.

SENATOR NORRIS. But they follow that by issuing some more bonds, do they not?

Mr. KELLOGG. No. No mortgage I ever heard of allowed the issue of additional bonds for bonds retired by the sinking fund; otherwise there would be no point in the sinking fund. It depends on the sinking-fund provision. The last issue of bonds we got out for one of our companies provided $1\frac{1}{2}$ per cent sinking fund per annum on bonds.

SENATOR NORRIS. That is to pay off the bonds?

Mr. KELLOGG. That is to buy them in, pay them off, burn them up. They are gone.

SENATOR NORRIS. Let us take a concrete case then. Do you know how long the Alabama Power Co. has been in operation?

Mr. KELLOGG. I do not.

SENATOR NORRIS. Do you know whether its capital is being reduced?

Mr. KELLOGG. I do not.

SENATOR NORRIS. Do you know about the Tennessee Power Co.? Are they reducing their capitalization?

Mr. KELLOGG. I don't happen to know that; no, sir. If they have sinking-fund bonds I should say their bonded debt was being reduced.

SENATOR NORRIS. Can you point to an instance of a private company that you have had anything to do with where, after many years of operation, they have paid off their capital entirely and have no investment left?

Mr. KELLOGG. They would not be allowed to by the public service commission, Senator.

SENATOR NORRIS. Referring again to your Hydroelectric Commission of Canada, there are a good many cities there under this operation that you are speaking of and that you are calling the attention of the committee to, where they paid off all their indebtedness and have nothing but operating expenses and upkeep to provide for.

Mr. KELLOGG. There are several cases; how many I don't know.

SENATOR NORRIS. There are quite a number, and they are increasing all the time in the Province. This same report gives a list of them, I think, if I could turn to them, which I cannot do on the spur of the moment.

Isn't the general proposition of corporations engaged in the utility business, private corporations, to keep the capitalization up as much as possible, instead of reducing it?

Mr. KELLOGG. They certainly want to maintain their investment, Senator.

SENATOR NORRIS. Yes; but couldn't they maintain their investment by paying off, like these people do here in Canada, "burn it up," as you say?

Mr. KELLOGG. If that were done, Senator, it would mean higher costs; it would mean, in addition to operation—

SENATOR NORRIS (interposing). Now, these public utilities, including the TVA in sales to municipalities all include that item, do they not, that they must add enough to the price that they sell electricity to the consumer for in order to cancel their entire investment eventually?

Mr. KELLOGG. Do you realize where that comes from?

SENATOR NORRIS. It comes from the man who pays for the electricity.

Mr. KELLOGG. Yes; and it comes from eliminating taxes.

SENATOR NORRIS. All right. Don't they include also in every one of them the payment of taxes, just the same as though they were privately owned?

Mr. KELLOGG. They do not, Senator. It is grossly inadequate.

SENATOR NORRIS. The reports show that they do. Those reports you have referred to from that selected number of towns, every one of them have in their contract with the TVA an obligation to pay as much as they would pay if they were privately owned, in taxes.

Mr. KELLOGG. I am just saying, Senator, that the TVA doesn't pay that much.

SENATOR NORRIS. The TVA isn't paying that. That is the municipality, but the TVA in lieu of taxes pays 5 per cent of the gross.

Mr. KELLOGG. And the utilities pay 14 per cent. That is our great, big difference.

SENATOR NORRIS. You said "2" in the beginning of your testimony.

Mr. KELLOGG. Two per cent of the investment as against 5 per cent of the gross. And the utilities country wide pay 14. That is a big difference. That is enough to amortize the property.

SENATOR NORRIS. When that amount was put into the law I made as diligent a search as I could get from the information that I could find, and on the average the public utilities privately owned in the United States did not pay in the aggregate 5 per cent of their gross proceeds as taxes.

Mr. KELLOGG. I don't know where you got those figures, Senator, but I would like to read into the record what they have actually paid

PUBLIC UTILITIES FORTNIGHTLY

for the last few years. I will begin with the year 1927.

In 1927 the electric utilities paid 9.46 per cent of their gross in taxes; in 1932 they paid

11.73; in 1933 they paid 12.7; in 1934 they paid 14.1, and in 1935 they paid 14. So that for the last three years they have been very close to 14 per cent.

Public v. Private Hydro Development

(Statements by Senator Norris during examination of C. A. Newton, counsel for the Mississippi Valley Association)

SENATOR NORRIS. Now, go to the Tennessee river. The object of the TVA Act was to take that river and its tributaries and develop it so that we could get the maximum amount of flood control—that meant the maximum amount of navigation—out of the stream, and that, as far as was consistent with that flood control, we should develop as much power as we could. Now, suppose we let private parties do it, and you and I built a dam at one place, the chairman built a dam at another place which he picked, and we picked ours. We picked the best we could get, naturally. Senator Schwellenbach comes in and builds a dam at another place. He would pick the best that was left; and when we got through, having only the idea of making money out of our venture, which would all be laudable, I concede, we would find that some place in this river—where it was not very desirable to get power, where it was too expensive—we had omitted to make the improvement, and navigation, flood control, would fail, because here is some place we have left, and because we didn't think it was financially feasible, and we didn't develop it, and we have got a spot here and there in the Tennessee river that is not navigable; floods are not controlled. Then we go out into the tributaries, and we build a dam like the Norris dam, purely a flood-control dam, and we are going to make some money out of it. We build a dam. We let the reservoir fill up to the top of the dam, and we keep it there, because by keeping it there we get more power out of it than if we let it down to take care of the floods, and the floods that would go over the top of the dam and go down the river and do the same damage as though our dam were not there. It would not do anything good as a flood-control proposition, but we would be making more money out of it. Now, isn't it right that somebody ought to build that dam and use it as a flood-control proposition and let enough water out of it during the dry season to help navigation down on the stream and get ready at the same time for the next flood that is going to come and do damage unless we are prepared for it?

Mr. NEWTON. The plan which you suggest would help navigation more and would make power more expensive.

Senator NORRIS. It might. It would lessen the amount of power that would be produced if we just went in for power purposes.

Mr. NEWTON. And, of course, that would make power more expensive.

Senator NORRIS. No; I don't think it would make power more expensive, but there would be less of it. It would make the power more expensive if Tom, Dick, and Harry and a hundred private people were developing for power and had to use it that way. But if one individual, like the government—and I contend that there isn't any such individual and there isn't any corporation big enough to take that river as a whole and develop it scientifically for navigation and flood control, but if there was, as I see it—and only the government is that kind of a person—and they built Norris dam up here on the Clinch river; they held the water back there instead of converting it into power; they lowered it every year so as to get ready for the next flood and lost power by doing it, as they would, of course; but that water that they held back, when they did let it out—it would go through all the other dams all the way to the mouth of the Tennessee river; and if the same party owned all of those dams, after all, he would not lose so very much power; he would probably lose none.

Mr. NEWTON. On the question of the absolute necessity of the government controlling the dams in order to protect navigation, the government, of course, grants the permit to build the dam, and it can enforce any terms that it chooses. The waterways belong to the public. They are highways.

Senator NORRIS. Yes.

Mr. NEWTON. The government can permit private individuals to build a dam, but it can put any conditions into the permit that it sees fit. In point of fact, I understand that the Federal government has the legal right to order discharge from private dams holding waters from navigable streams when necessary for navigation.

Senator NORRIS. Yes; it can do that.

Mr. NEWTON. I remember some four or five years ago—

Senator NORRIS (interposing). Before you leave that, let us just take that. I agree with your statement there. The government could do it, but history has shown, and I think the very nature of human beings convinces us that if it undertakes to do it that it would have to continually be watching and regulating, and the government would say to you on your flood-control dam and to me on my

WHAT OTHERS THINK



Daily Kennebec Journal

MAKING FRIENDS AGAIN

flood-control dam, "Now, you hold the water back. Don't make any power. Deepen that water there." And we would have to do it. There would be a continual friction between the government administrative authorities and every corporation or person that had a flood-control dam anywhere in the system, and the cry would go up right away, "The government is interfering with business here. We could make \$100,000 if we let this water out, get the high fall of the water, and the government insists that we shall hold it back when we would like to let it out, and the government insists that we shall, to some extent, empty this reservoir, get ready for the next flood, when, as a matter of fact, if we let it

stay full we would get so much more money out of the power."

I recall what brought this to my mind. Some four or five years ago, I think, there were some power dams somewhere in the region of the headwaters of the Monongahela, and the flow was so low that they could not bring their coal barges down, and those private dams were allowed to—an Army engineer, I don't know whether it was on some condition or what, but he got the water out of those power reservoirs—I don't know who owned them; I think they are power reservoirs, but he caused those reservoirs to release their water—I don't know how he worked up to it or by what authority, wheth-

PUBLIC UTILITIES FORTNIGHTLY

er it was a condition in the permit or what, but it did save navigation. That would be true if one party owned them all. It would not make much difference whether he made

power out of the water up here in the mountains or down here in the lower flow of the stream.

Hydro Development v. Coal Industry

(Statement by George F. Klein, Consulting Engineer, representing the Mackie-Clemens Fuel Company)

Let me illustrate my point with a hypothetical but typical situation: A flood control dam is to be built, or a reservoir to hold water for irrigation. The cost of the project is, say, \$40,000,000. If we stop there all of this cost is to be charged to flood control or irrigation. But the board of managers, with a congressional mandate to develop the maximum amount of electricity consistent with flood control and irrigation, call in their engineers and are told that, by increasing the height of the dam, and by multiplying the reservoirs, a flow of water can be obtained which will generate electric power. So this is done plus all the additional equipment incident to power generation and transmission. The total cost of the combined project is say \$75,000,000. Then the total cost is allocated in accordance with the congressional mandate between the various objectives. If the board of managers are honest they say this project without electric power would have cost 40 million but with electric power the cost is 75 million. We will allocate the additional cost of 35 million to electric power and the 40 million properly belongs to flood control, irrigation, navigation, and so forth.

Taking this hypothetical illustration a step further, let us assume that the electricity can be marketed and sold on a basis to liquidate the \$35,000,000 allocated to power. That is the most favorable assumption. That is the most that is claimed by the sponsors. There has been no reduction, and recoupment, so far as the taxpayers are concerned in the expenditures for flood control and navigation. The cost to the taxpayers is just as much without the addition to the project of the electric power feature.

If it was proposed, or claimed that by combining electric power with flood control and navigation, the revenues from electricity would ultimately return the entire combined cost, there would be some justification for such a program, or even if the revenues from electricity would ultimately return a substantial part of the flood-control cost. But all that happens, under the most favorable circumstances, is that the electricity returns the additional cost of adding electric power generation to the underlying features of navigation, irrigation, and so forth.

The real truth of the matter is that the addition of immense hydroelectric power schemes to flood control and navigation, and

letting the latter bear the lion's share of the total investment and make for "cheap" electricity but only because hundreds of millions of dollars from the government Treasury have been charged up to other purposes in the combination.

This is why the coal industry regards government hydroelectric power as in reality subsidized out of the public treasury, why we regard it as unfair competition, why we object to it, as embodied in this bill, and in the TVA, and in many of the projects launched or financed by the PWA.

There is another question which seems to me to have considerable bearing on this bill. That is the operation of the many municipal power and water plants in the area which is involved in the Missouri valley territory. At the present time these municipal plants are operating for the prime purpose of producing electrical energy and water service at lower cost than are generally encountered in private ownership and even with such lowered cost the benefits which accrue to the municipality are very marked. In the Missouri valley, in localities where municipal plants exist, taxes on property have been materially lowered and many local citizens are placed in gainful occupation over long periods of time. The operation of these plants not only tends to reduce local taxes but it also enables them to build up reserves which in the past have been very convenient for plant replacements, extensions, and in some cases alleviating the economical conditions of our times. Should government-controlled hydroelectric power be brought into these communities there will be, first, a decrease in employment; second, an increase in taxes; and third, an economic loss in the investments which have now been made by these municipalities in their power and water plants.

It might be argued in this connection that the municipality can still sell government-produced electric power with sufficient profit to maintain the conditions which now exist with municipal ownership, but lower rates with decreased chances for making a profit from plant operation are bound to ensue when the public is thoroughly acquainted with the actual cost that the city would pay per kilowatt hour for that energy from a government project. At the present time the public is very much unaware of the many phases that make up the cost of power generation,

WHAT OTHERS THINK

but with an open-and-shut case, as with the case of a municipality, it is doubtful whether or not the people would be willing to pay an electric rate sufficiently high for them to maintain their present standards of taxation.

From my own experience in operating steam-generating stations in connection with water power I do know that some of the largest dams in the Missouri valley now constructed primarily for power-generating purposes are thoroughly inadequate in producing prime power for which they were designed. The flow of water in streams due to the vagaries of nature are so uncertain that it is absolutely necessary if service is to be rendered that all water-power projects of the nature proposed in the Missouri valley be augmented by steam plant stand-by service. It is logical that the maintaining of such stand-by service, which is extremely expensive, would not only force up fuel cost for such service but the combined hydro and steam electric rate would be at least as much and many times more than the rate which could be had with straight steam-plant operation. The operating history of the large dam on the Osage river at Bagnell, Mo., repeats the performance of the dam on the Mississippi at Keokuk, neither one being dependable for a given amount of prime power for which they were originally designed.

There seems to be in the layman's mind the opinion that water power is free and that all water-power energy now available is being wasted and that it should be harnessed and in turn extremely low electric rates will result. It is true that low electric rates have resulted from the construction of economically feasible dams for the purpose of irrigation, navigation, or strictly hydroelectric generation. But it must not be understood that all possible or potential water-power projects are economically feasible. In my opinion, if such were the case, many of the proposed water-power projects would have long since been built. Since the distributors of electrical power are in the business to increase their load and sell it at a profit, it is certain that if it was economically feasible to do so these projects would long since have been erected. The public-utility industry does not hold any brief for the coal industry, and they would just as soon sell and distribute water power, if it could be done at a profit, as they would power generated from steam with coal as a fuel.

The claim has been made by proponents of this bill that a Utopia would result from increased fertilization of valleys and cheap electrical power, which in turn would bring into that district many industries and cause a revitalization of business far beyond our present dreams. This possibly was so, many, many years ago, but history shows that the civilization of America, the building of cities, industrial growth, and power use are generally fixed. It does not seem to me that due to

a water-power project in the mountains of Montana, that industry will move from the plain states of Illinois and Indiana or Iowa to such location because of cheap electrical power.

Power must find its market, since the market does not find the source of power. If this were true, our largest power plants would today be constructed at the mine mouth rather than be constructed in the center of the actual distribution of the power. A limiting factor in power distribution is, of course, the matter of transmission, and in many cases the cost of transmission far exceeds the cost that the consumer will pay at the point of destination; hence the lack of present water-power development.

The same is true of industrial development. Industry seeks locations which are close to the center of distribution, and it certainly cannot be argued that industry will move into the fertile valleys created by irrigation and low electric costs, and then spend much more than they save in getting their goods to market. And, on the other hand, should these fertile valleys exist under the administration of this bill, I wonder where the people will come from that will populate these valleys. Is it the desire to create fertile valleys to produce more agricultural products with a population which is now not consuming near the production possibilities; and with agriculture now being subsidized to curtail production, is it the belief that fertile valleys in Nebraska should be designed so as to cause an exodus of the present established farm communities in South Dakota? What will happen to land values in South Dakota if everyone moves to Nebraska? What will happen to the cities and businesses which are now built in South Dakota? Is it the purpose of this bill to cause a complete economic upheaval in the living conditions of all inhabitants of the Missouri valley?

We have before us today, actual conditions which we are trying to meet, due to the development of water power and irrigation projects in line with the desire of the bill, S. 3524. This is in connection with the Sutherland, Tri-Counties, and Loup river projects in the state of Nebraska. The power-production possibilities from these three projects are already causing great alarm among the cities in this territory.

I would like at this time to explain just how this affects one individual community in this area. I would like to take, for example, the city of Fremont, Neb. It is located very close to the dam and hydroelectric plant at Columbus, Neb. This project is strictly a hydroelectric project and has for its purpose the sale of power to communities in that portion of Nebraska. The original cost estimates on this project gave a rate per kilowatt-hour of electrical energy which was lower in many instances than the cost of electrical energy generated in the municipal plants im-

PUBLIC UTILITIES FORTNIGHTLY

mediately surrounding the Columbus project. This, of course, caused great alarm not only to the municipal plants themselves but to the coal industry which was supplying coal to this area. Since the proposed rates were not meeting with favor, a new schedule of rates has been proposed and has been presented to the municipal plant in the city of Fremont. It so happens in this case that our company mines the coal that is used by the municipal light plant in the city of Fremont. The rate schedule presented is such that a saving of \$800 per year can be effected in the operation of this utility by the use of hydroelectric power from the Columbus project as against the cost of coal steam-generated power.

During the last year we have been forced to adopt the 35-hour week in our industry and increase the wages of all employees in connection with the mining of coal, with the result that our costs of production have materially increased, and now we are going to be forced to contract with the city of Fremont for a coal supply, if we are to hold this business, at costs which are much lower than they were before we were forced to increase wages and adopt the 35-hour week.

It would seem to me that there must be something wrong somewhere with our national policy if, on one hand, the Federal government desires to help one group of people in order that commodity prices might be raised so that a profit can be made and taxes paid, and, on the other hand, it subsidizes a project which in turn completely defeats the other project. Certainly the coal industry should not be forced to pay higher taxes and higher wages and put more men to work when such taxes are used to finance water-power projects such as at Columbus which in turn has the effect of putting the coal industry out of business.

The estimated kilowatt hour of production from the three projects in Nebraska which I have mentioned is approximately 400,000,000 kilowatt hours annually of electrical energy. This is as much as is now being used by the entire state of Nebraska. Should the entire estimated electrical production be used in the state of Nebraska, it is evident that all other sources of power generation will have to cease unless many of them are carried as stand-by service. It is a concrete fact that each person employed in the mining, transportation, distribution, and utilization of coal as produced in the states of Kansas, Missouri, Oklahoma, and Arkansas produces a heat energy of 5,177,000,000 B.T.U. per year. The 400,000,000 kilowatt hours of electric energy to be produced by these water-power projects in Nebraska consume at the present

time approximately 8,000,000,000 B.T.U. On this basis the replacement of electrical power now generated by steam power would mean the actual permanent displacement in the state of Nebraska alone of some 1,540 man-years. This is certainly an appreciable amount and is a concrete example of what follows when unwarranted uneconomical water-power projects are subsidized by Federal funds.

We certainly have no objection to any program of Federal control of floods, navigation, or irrigation, but we do believe that an economic policy should be adopted that generation of hydroelectric power will be strictly a minimum consideration in the promotion of these other projects and that it only will be used when it has been proven economically feasible without serious injury to the many other forms of energy which are now being utilized for the generation of electric power.

In closing, I would like to make some comments in this connection. America today has vast sources of energy, many of which are in reserve for thousands of years to come. It is this energy which has built America today to the standing which it commands among all nations. It is the very lifeblood of our people and we are now being faced with the government subsidizing one form of energy to the detriment of another.

We have energy from coal, oil, natural gas, and water power. It seems to me that these four sources of energy are very vital to the economic upbuilding of the United States of America. There has been a lot said in the past with reference to controversies existing between one form of energy and another. Why not let us do something constructive for the welfare of our Nation and establish some sort of a commission which will have full control of the energy resources of this country, whether they are now being operated by private or public funds. Such a commission could do much to place the energy resources of this country on a sound fundamental basis and would be a very vital influence in the production of hydroelectric power where it is economically feasible with the least injury to not only the coal industry but other fuel or energy industries as well. The matter of flood control, irrigation, and navigation is, of course, vital, but to my mind it is high time that we were taking some steps to control and regulate the energy sources of this Nation so that none may be needlessly wasted because of the whims or fancies of the proponents of any one of the four.

—F. X. W.

Q "If the power companies make sufficient reductions in their charges, the extension of the TVA policy will not be necessary."

—JAMES A. FARLEY,
United States Post Master General.

The March of Events

FPC Publishes Glossary

THE Federal Power Commission on August 11th announced the publication of a glossary of important power and rate terms, abbreviations, and units of measurement compiled by the commission's staff. The purpose of the glossary is to provide uniform terminology for the reports, documents, and correspondence of the commission. It is not intended to prescribe standards for the electric utility industry.

The glossary consists of the definitions of 184 terms, 196 abbreviations, and 151 units of measurement. It was said to be the first official attempt ever made to clarify the meaning of such terms and standardize the abbreviations and units of measurement within the industry.

Plan Water Power Study

THE Philippine national economic council, created by Commonwealth President Manuel L. Quezon, was reported last month to be preparing to make a thorough survey of the water power of the islands. It is the plan of the government to nationalize all water power for the establishment of hydro-electric plants.

REA Finances Alaska Line

THE administration moved last month to help illuminate Alaska's long winter nights. The Anchorage Power and Light Company, it has been reported, received an allocation of \$115,000 from the Rural Electrification Administration to build about 80 miles of rural extensions to serve the Matanuska valley region in which the Federal government resettled farmers.

The sun shines only a few hours daily in the valley area during the winter months, thus "making electricity necessary for lighting," the REA said.

Britain Watching TVA

BRITISH observers are watching the Tennessee Valley Authority's operations closely with the hope of finding a solution to the problem of decayed areas in the empire, according to Oliver L. Lawrence, of the Royal Institute of International Affairs, speaking before the Sixth International Conference of Pacific Relations at Yosemite National Park

last month. He addressed 250 statesmen gathered primarily to discuss international affairs of lands bordering the Pacific.

Mr. Lawrence said economists and industrialists in Great Britain have been very considerably interested in the TVA. Great Britain is faced with her own intractable problems of regional development in the "decayed areas" of South Wales, the northeast coast, and in Scotland.

Union Station To Be Dining Hall

ACCORDING to plans recently made known, Union Station at Washington, D. C., will be transformed into a banquet hall with places for some 3,000 guests to accommodate the representatives of fifty nations who will meet in Washington from September 7th to 12th to discuss power problems at the Third World Power Conference. Union Station, it was found, was the only place in Washington large enough to provide for the crowd expected at the banquet to be held September 10th.

Specially decorated and surrounded by partitions, the waiting room will be the scene, conference officials said, of the largest and "probably the most brilliant" dinner party given in the Capital. The main waiting room will be closed to passengers for eight or ten hours on the day of the banquet, it was stated, but the ticket room will be open and traffic will not be interrupted.

Morris L. Cooke, head of the Rural Electrification Administration and chairman of the conference's executive committee, said that all railroads using the station had agreed to the banquet plans and that the Union Terminal Company had given its final approval too.

To Turn on Dam Power

MORRIS L. Cooke, rural electrification administrator, last month announced that President Roosevelt would start the first generator at Boulder dam at the conclusion of his speech opening the World Power Conference in Washington on September 7th. Cooke, who is to act as chairman at the power conference, also stated that the President would open the huge valves permitting water from the Colorado river to cascade through the dam.

Reclamation bureau officials said later it had not been decided whether the generator to be started would be one of those serving the city of Los Angeles, or smaller turbines

PUBLIC UTILITIES FORTNIGHTLY

for power consumed at the dam. The sound of the generation, it was said, would be broadcast back to the conference hall.

Talks with TVA Heads

PRESIDENT Roosevelt on August 11th discussed the Tennessee power development in a 2-hour conference with directors of the Tennessee Valley Authority. The President lunched with Chairman Arthur E. Morgan before conferring also with Harcourt Morgan and David Lilienthal, the two other directors, and Basil Manly, vice chairman of the Federal Power Commission.

President Roosevelt said they discussed applications of several communities for TVA power. He said the seven new dams for which Congress appropriated \$40,000,000 and the expiring contract with the Commonwealth and Southern Power Company for power from Wilson dam also were considered. The agreement under which the company has been buying the current since 1926 expires on November 1st, the President said.

The President denied reports that Chairman Morgan would resign and added there had been no discussion of expansion of TVA activities outside the present territory to which Morgan objected. Mr. Roosevelt said the TVA directors were concerned over a shortage of power among private companies in that region, which, he said, was getting to be quite serious.

Gas Fight Looms

A MAJOR conflict in Western Ontario's \$41,000,000 natural gas industry, whose

production last year was valued at nearly \$5,000,000, was reported in the offing last month, with the Provincial Government taking steps to bring about lower gas rates.

The first gun was fired on August 7th by Hon. David Croll, Minister of Municipal Affairs, who called a conference of interested municipalities at London, Ont., to obtain reduced rates. The minister insisted the province's gas resources were being "exploited by monopolists to the disadvantage of the citizens."

At Windsor, S. A. Morse, president of the Union Gas Company of Canada, labeled as incorrect the minister's statement "the little consumer has been squeezed out mercilessly," declared the gas industry was no monopoly, and asserted rates compared favorably with Hydro.

Forecasts Seaway Approval

A NEW St. Lawrence waterways treaty proposed by Canada and said to be now before the U. S. State Department was reported last month to hold promise of early ratification according to a statement made by Senator James Hamilton Lewis of Illinois. Senator Lewis, vice chairman of the senate foreign relations committee, led the fight against ratification of the original treaty which was defeated in the U. S. Senate. Officials, however, would not admit that a new treaty had been proposed by Canada or had been sent to the state department.

The Ontario government has indicated its disapproval of seaway construction at the present time in view of the existence of surplus power and railway depression.

Arizona

Commercial Rates Reduced

THE Arizona Edison Company last month announced a reduction in commercial light and power rates in Casa Grande.

The new schedule of electric rates, it is

said, will result in estimated annual savings of \$4,200 for Casa Grande business consumers in the two schedules, No. 12 and No. 13, which include small commercial lighting or small power users and those using the same on a larger scale.

California

Utility Tax Issue

MAKING some concessions, but demanding that the utility pay a 2 per cent franchise tax for light in annexed territory, the Monrovia city council last month sought to end the deadlock preventing completion of a 40-year franchise agreement with the Southern California Edison Company. City board members and Edison Company officials were

unable to agree on one or two items that were contained in the notice of sale of the franchise, as prepared by the city attorney.

One was the basis of determining the value of the utility property in Monrovia, should the city at some future date decide to go into the power business, and purchase or condemn the Edison Company property. The second disputed section stipulated that if in the future the state railroad commission should increase

THE MARCH OF EVENTS

the amount of franchise tax the utility is required to pay the city annually, that Monrovia should benefit by such a change.

Edison representatives indicated that that organization would not pay the 2 per cent franchise tax on light in the annexed territory. Members of the council said they would demand payment of the annexation franchise tax.

Electric Rates Drop

THE Southern California Edison Company recently was granted permission by the state railroad commission to reduce its rates for electric power in Vernon, effective August 15th. The company's petition said the new rates would result in a saving of \$40,000 to Vernon consumers.

The company stated the reduced rates would be for domestic users, for street lighting and for general power purposes.

Seeks to Halt Bond Sale

THE Pacific Gas and Electric Company on August 12th petitioned in Federal court for an injunction to halt the sale of \$12,000,000 worth of bonds by the Sacramento Municipal Utility District. The company charged the district's plan to create a competing power system was "palpably unreasonable, arbitrary, confiscatory, and oppressive and manifestly

and unreasonably discriminatory under the facts and circumstances."

Postpones Power Set-up Choice

CONSIDERATION of municipal power distribution on August 11th was postponed until the first week in September by the San Francisco Board of Supervisors to allow Randall Ellis, city rate expert, time to study and make reports on various plans. The action was taken after a two and a half hour debate between Supervisors McSheehy and Havenner. McSheehy won consideration of his minority report from the special power committee.

The minority report favored distribution plan number six—enlargement of the Moccasin creek power house and construction of a distribution system and transmission line to bring Hetch Hetchy power to a section of the city. The majority report, favored by Havenner for submission to Secretary Ickes to find if it would comply with the Raker act, contemplated purchase of the Pacific Gas and Electric Company distribution system, leasing of transmission and other services, and distribution to the whole city.

City Attorney O'Toole advised the board not to decide for a while which plan it preferred if it wished to go ahead with the proposed court test of the right of the supervisors to authorize an issue of revenue bonds without a vote of the people.

District of Columbia

Rates Reduced under Sliding Scale

IN the shortest rate hearing of local record gas rates were reduced in the District last month under the sliding-scale method, so that domestic consumers who have been paying \$3.31 or more a month for gas will save 5 cents a month. Those who were paying \$2.99 for 3,600 cubic feet of gas per month (aver-

age residential consumption) will save one cent a month. The 88,452 domestic consumers who use less than 3,600 feet of gas per month will get no reduction.

Reductions of somewhat greater ratio, yet inconsiderable on each monthly bill, were ordered for 80 per cent of the commercial consumers. There was no reduction for house-heating gas. It was the first rate adjustment under the gas rate sliding scale adopted last year.

Indiana

Municipal Rates Cut

THE second reduction in electric rates within ten months to approximately 10,000 consumers of power generated by the municipal electric light plant at Richmond was announced August 15th by the city council and D. C. Hess, superintendent. It was estimated the new rate reduction would save consumers

\$50,000 a year. Last October rates were reduced at a saving of approximately \$37,000 annually.

Virtually all consumers were affected by the new reductions which range from 9 per cent for customer using current for heavy domestic duty, 10 per cent for domestic consumption, to 15 per cent for commercial users, and 22 per cent for rural commercial users.

PUBLIC UTILITIES FORTNIGHTLY

Kentucky

Utilities Liable for Tax

THE state 3 per cent tax on utility service charges was ruled constitutional by Attorney General B. M. Vincent last month, regardless of whether the utility is publicly or privately owned. The opinion was in reply to a request by the city council of Bowling Green, which operates its own waterworks.

The opinion stated that the tax was "laid upon the purchaser of the commodity sold by the utility, and not upon the utility." The only exemptions, it was said, were for local, state, and Federal governments, or any charitable, religious, or educational institution in Kentucky "when it is the purchasing consumer."

Water Rate Increase Denied

THE Maysville Water Company's request for increased rates to Maysville consumers was denied last month by the public service commission, which said in its order that the water company could install meters on its connections under existing rates.

The company's effort to raise the rates to consumers started in May. The state commission ruled that the water company had not proceeded properly to obtain the higher rates, and in June the water company started over again.

The company contended it could not install meters throughout its system under existing rates. It asked, in July, for a temporary order for higher rates, so it could finance the meter installation out of the increased revenues, leaving final adjustment of rates to consumers to be determined when the water meters were installed, and the amount of

savings that would result could be determined.

The commission decided that no showing had been made by the company of "serious economic detriment" that would result from its compliance with the commission's recent general order for meter installation.

To Hear Phone Rate Case

LOUISVILLE's controversy with the Southern Bell Telephone and Telegraph Company over telephone rates will probably go before the Kentucky Public Service Commission early in September, recent development indicated. It was said members of the public service commission were convinced the difference between the city and the telephone company could not be settled by agreement. The city, through its representatives, told the commission it was ready to proceed with its case.

It has been reported that the issue between the city and the company may be joined in a pending proceeding before the commission involving telephone rates throughout the state.

Rules on State Tax

SALES of gas, water, electricity, and transmission of messages to a firm engaged in interstate commerce are not necessarily exempt from taxation under the interstate commerce clause of the Federal Constitution, James W. Martin, Commissioner of Revenue, ruled on August 5th.

Where the sale is for services within the state, though the firm does conduct an interstate business, the sale is taxable. If the commodity is delivered outside the state there is no tax, Mr. Martin added.

Maine

Power to Finish Quoddy

PRESIDENT Roosevelt could complete the Quoddy project if he wished, U. S. Representative Ralph O. Brewster told residents of Eastport, site of the abandoned tide harnessing development, last month.

The President, Brewster declared, "has full power and authority and ample funds to complete Quoddy. Nothing has ever been done by Congress to limit in any way the presidential power, except to provide that sufficient funds must be allocated to complete a project such as Quoddy."

Maryland

Approves Power Loan

ALLOCATION of \$35,000 for the construction of approximately 30 miles of rural elec-

tric lines in St. Mary's county—the second such project to be advanced in the state—was announced early last month by the Rural Electrification Administration. The St. Mary's

THE MARCH OF EVENTS

county project is being sponsored by a cooperative group which was said to be in the process of organization under the laws of Maryland, according to the REA. Officials said there was nothing "unusual" about the allocation of funds to a cooperative not yet

fully organized. The procedure was followed, the REA explained, in order that proposed cooperatives might be reasonably certain of having their projects approved before going to the expense of setting up a formal organization.

Michigan

Gas Pilot Row Settled

A SOLUTION to the problem facing about 10,000 householders in the Detroit area who have oil burners equipped with gas pilots was announced on August 12th by Frank P. Fisher, the city's gas consulting engineer, who informed the city council the Detroit City Gas Company had agreed to pay the total cost of adjusting these pilots so they will function properly with natural gas.

The agreement was reached by representatives of the gas company and the Detroit oil heat committee, who conferred on the problem with Fisher at the council's request. It brought to an end the first open conflict between the Detroit City Gas Company and the numerous Detroit concerns who are inter-

ested in the marketing of domestic fuel oil.

William G. Woolfolk, president of the gas company, had announced his concern would accept full responsibility for adjusting all gas-burning appliances in the Detroit area to make them function efficiently after the switch from manufactured to natural gas, excepting gas pilots on oil burners. He said his concern would willingly contribute to the cost of adjusting the pilots for natural gas service but did not wish to do the job because it feared the public would get the impression the company was assuming responsibility for the proper functioning of oil burners. The Detroit oil heat committee, under the recent agreement, has accepted the responsibility for doing the job which will cost the gas company approximately \$51,000.

New York

Gets Light Rate Cut

RATE reductions that will save about \$848,000 a year for consumers of electricity in Westchester county were ordered August 13th by the public service commission, effective September 1st. The orders were directed to the Westchester Lighting Company and the Yonkers Electric Light and Power Company.

Consumers supplied by the Westchester Lighting Company will save \$716,000 annually, while those supplied by the Yonkers Company will save about \$132,000. In ordering the reductions, the commission endorsed opinions in which individual commissioners severely criticized both companies for their financial practices and accused them of dilatory tactics during protracted public hearings.

tory tactics during protracted public hearings.

The \$716,000 reduction in rates of the Westchester Lighting Company was recommended in an opinion written by Commissioner Maurice C. Burritt, who presided at the hearings in the rate investigation. Chairman Milo R. Maltbie and Commissioner George R. Lunn concurred, as did Commissioner Neal Brewster, with reservations.

The reduction in Yonkers rates was recommended in an opinion by Mr. Maltbie, in which Commissioners Lunn, Burritt, and Brewster concurred, the last with reservations.

The Westchester Lighting Company reduction is in addition to reductions totaling about \$1,200,000, ordered by the commission in June, 1935.

Ohio

Urges Gas Rate on Cost Basis

I N a report recently sent to Councilman William C. Reed, chairman of the Cleveland council utility committee, the Citizens League recommended that Cleveland should negotiate with the East Ohio Gas Company for a schedule of rates on a service-at-cost basis. The

league asserted such a contract would give the East Ohio Gas Company an annual return on its investment of not more than 6 per cent, adding that in past years the earnings of the gas company were 15 per cent.

The league's report said that the service-at-cost recommendation "is built around the thesis that the highest courts have in substance ruled

PUBLIC UTILITIES FORTNIGHTLY

that a public utility has no constitutional right to more than the cost of the service and a reasonable return on the actual value of the property used in the service; therefore, a cooperative service-at-cost plan would be fair to the company as well as the consumers and would avoid the expensive litigation resulting from the competitive rate plan and the re-

fusals of the company to accept the rates fixed by ordinance."

Councilman Reed has suggested a consumers' dividend plan of fixing gas rates, under which any earnings by the company in excess of an agreed amount would be divided between the consumers and the company, it is reported.

Oregon

Files Notice of Appeal

ATTORNEYS for the state utilities commissioner on August 4th filed notice of appeal to the Oregon Supreme Court from the *en banc* opinion of Circuit Judges Tucker, Lusk, and Brand enjoining the commissioner from enforcing his projected 8 to 9 per cent exchange telephone rate reduction order. The opinion was handed down early in June following hearing which extended over a period of several weeks.

The injunction was granted on application of the Pacific Telephone and Telegraph Company, which took issue with the order as drafted by Charles M. Thomas, ex-state utilities commissioner, holding it to be confiscatory, arbitrary, and contrary to fair business practice.

To Greet Power Delegates

HAMILTON F. Corbett, president of the Portland Chamber of Commerce, last month accepted chairmanship of a committee to greet and entertain delegates to the Third World Power Conference when they arrive in Portland on a tour of the nation's outstanding power projects September 24th, it was announced recently.

Approximately 200 delegates will be in the touring party to stop in Portland for inspection of the Bonneville dam project, according to the manager of the local chamber of commerce.

Plans were being completed to acquaint members of the party with the large load of cheap power expected on completion of the Bonneville project.

Pennsylvania

Attacks Rural Electric Group

MORRIS L. Cooke, head of the Rural Electrification Administration, in a speech at Meadville at ceremonies marking the start of the first cooperative rural electrification project in the state, charged that the state was backward in rural lighting because the utilities developed certain areas which yield a greater profit to the company to the exclusion of other comparatively undeveloped areas.

Mr. Cooke attacked the Joint Committee on Rural Electrification, created in 1927 as a result of a general order of the state public service commission, stating that the committee is the "principal obstacle" to further electrification of rural areas in the state. He said "whatever reason for existence it may have had when first set up has disappeared."

He declared that the Joint Committee has been "merely masquerading" as the farmers' friend, adding that farmers in the state of Pennsylvania will only get their share of rural electrification when the joint committee steps out of the picture.

C. J. Goodnough, chairman of the state public service commission, in a statement issued

in answer to Mr. Cooke's charges, said extension of electric service to rural consumers under the direction of the Joint Committee was progressing in a manner satisfactory to the public service commission. He declared the state commission "neither has nor will place any obstacle" in the path of extension of rural lines through the medium of the Rural Electrification Administration, a Federal agency.

John M. McKee, executive secretary of the Joint Committee, answering Cooke's charges, said costs of rural electric service have been reduced through the Pennsylvania Joint Committee on Rural Electrification. During the ten years of the Joint Committee's existence, McKee said, line costs have been reduced from between \$2,000 and \$3,000 to between \$1,200 and \$1,400.

Cooke claimed the cost of erecting lines in the state ranged from \$1,400 to \$2,500, while the cost should not exceed \$1,000.

McKee, who said he is opposed to all attempts of the government to set up cooperatives to supply and extend electric service, such as the REA is now doing, said most of the suggestions made by Cooke in his speech at Meadville had already been carried out.

THE MARCH OF EVENTS

Authorizes Competing Line

PITTSBURGH's fight to lower the 25-cent bus fare of the Pittsburgh Motor Coach Company gained impetus last month when the state public service commission for the first time authorized a competing bus line to run in "direct competition" with the motor coach company's busses and the trolleys of the parent Pittsburgh Railways Company. The state commission granted the Brentwood Motor Coach Company the right to operate a daily

schedule of busses between Pittsburgh and Library, via South Park, over the protests of the two Pittsburgh utility corporations, it is reported.

The commission's decision was said to lend strength to the city's new strategy, announced by Assistant City Solicitor William F. Beatty, of asking the state commission to revoke the Pittsburgh Motor Coach Company's certificate of public convenience for certain lines on the ground that its high fares preclude sufficient public service.

South Carolina

Bus Case Plea

THE state public service commission on August 4th heard and took under advisement pleas of the Broad River Power Company and the city of Columbia for the elimination of certain conditions contained in the commission's order for a complete substitution of busses for street cars in Columbia. It was the second open hearing on the substitution conducted before the commission.

No one appeared in opposition to the proposed changes in the substitution order nor were any briefs filed opposing them. Representatives of the towns of Arden and Eau Claire and the North Columbia Land Com-

pany, which opposed the substitution originally, voiced no opposition at the hearing.

Coördinating Group Swaps Data

REPRESENTATIVES of a number of South Carolina utilities, meeting at Columbia on August 12th, organized a statewide coördinating committee to dispense information to the various wire-using companies of the state. Officials said the coördinating committee would collect and make available information as to the proposed construction of new lines or changes in existing lines. Power companies, telephone companies, and telegraph companies were represented at the meeting.

Tennessee

Votes Natural Gas

BARRING delays caused by legal or other unavoidable developments, Knoxville will have a natural gas supply ready for distribution and consumption within eighteen months, it was recently reported. The city council on August 4th by a vote of nine to one passed on second and final reading an ordinance, drastically amended, to grant Sunbright, Tenn., gas interests, represented by W. A. Messer as trustee, a 50-year franchise to install and operate a natural or artificial gas distribution system in the city.

The ordinance requires that the system be placed in operation within eighteen months after final passage, unless legal proceedings or circumstances over which the franchise holders have no control intervene.

Utilities File Amendment

THE possibility that a temporary injunction restraining operations of the Tennessee Valley Authority may be sought in U. S. District Court was indicated last month when

19 operating utility companies in the TVA area filed an amendment to their original bill of complaints against the TVA. The original bill, filed in the Knox county chancery court on May 29th and transferred to Federal court on motion of the TVA on June 15th, had asked for a permanent injunction at the conclusion of hearings on the case. It sought to have the court "adjudge and decree" that the Tennessee Valley Authority Act of 1933, the power program authorized by the act, and the power program promulgated by the authority were unconstitutional.

The major portion of the amendment filed recently opened the way to the companies to obtain a temporary injunction against TVA operations before the case comes to trial.

Grounds for the suit as stated in the original bill were that the TVA program would necessarily and inevitably destroy all or a substantial part of the business and property of the complainants.

The TVA has asked that the suit be dismissed for lack of jurisdiction. The motion contended that a civil suit against the TVA can be brought only in the northern district of Alabama.

PUBLIC UTILITIES FORTNIGHTLY

Texas

Gets Lower Rates

ELECTRICITY and gas rate reductions approximating \$417,000 annually in San Antonio were insured when the Public Service Company last month agreed to pay the city \$100,000 cash besides reducing the rates in return for twenty years' extension of its franchise expiring in 1940.

Maximum domestic electric rates would be cut from 5½ cents to 5 cents a kilowatt hour and gas from 73¼ cents to 70 cents net, per thousand, according to recent press reports.

The city was not expected to press its proposed municipal power project as a result.

Phone Question Up to Voters

ANY further action on the Southern Bell Telephone Company franchise was left squarely up to the voters in the referendum next April on August 14th, when the Dallas city council by a 5-to-4 decision voted down a motion to adopt an ordinance placing a 4 per cent gross receipts tax on the company.

The voting was precipitated when Utilities Supervisor Joseph F. Leopold introduced a letter from the telephone company in which it agreed to pay the gross receipts levy of \$145,000 for 1936 "if the franchise is voted for by the people."

Washington

May Get Electricity

CITY Lighting Superintendent J. D. Ross of Seattle early last month asked the city council for permission to serve a rural power district at Tanner, near North Bend, with electricity from the city's Cedar Falls power house at a wholesale rate of approximately

1½ cents a kilowatt. The Mutual Power and Light Association with about sixty-five rural customers has received an allotment from the Rural Electrification Administration for the purpose of building its distributing lines, Superintendent Ross said, and the association wants Seattle's city light department to provide the energy.

West Virginia

Plan Utility Deposit Change

CHANGES in rules governing the operation of water, electric, and natural gas utilities in the state were reported being considered last month by the state public service commission.

The commission plans to change provisions on customers' service deposits to require the utilities to credit the accrued interest on the

deposit to the service bill rendered each December 1st.

Other contemplated revisions provide for uniformity in rules for the rendering of rural extension service by electric utilities in the state and for a uniform system of accounts for electric utilities.

Hearings on the three proposals before the state public service commission were set for September 15th and 17th.

Wisconsin

Orders Coöperative Rates Filed

THE state public service commission on August 14th ordered the Wisconsin-Michigan Power Company, the Wisconsin Gas and Electric Company, and the Lake Superior District Power Company to file within twenty days wholesale rate schedules applicable to farmer electric coöperatives. The commission prescribed the rate schedules that are to be filed.

At the same time the commission approved with modifications a wholesale rate schedule filed by the Wisconsin Public Service Corporation in response to the commission's June

28th order applicable to coöperatives and at the same level as the wholesale rate schedule for municipal utilities.

Rate schedules ordered by the commission in some respects were lower than the schedule of the Richland Center municipal plant to the Richland coöperative, approved by the REA and on which construction has started.

The Richland Center rate schedule provided \$1 per kilowatt monthly demand charge with energy at the rate of 2 cents for the first 10,000 kilowatt hours purchased monthly, 1.5 cents on the next 10,000, 1.25 cents on the next 30,000, and 1.1 cents on each hour over 50,000.

The Latest Utility Rulings

Ohio Court Sustains Commission Order Reducing Telephone Rates

THE supreme court of Ohio sustained orders of the public utilities commission of that state reducing rates of the Ohio Bell Telephone Company and in support of its decision upheld the commission on various disputed questions of valuation and rate making.

Exclusion by the commission of construction work in progress was held not to be error where allowance was made for interest during construction.

A contention that no consideration was given to cost of property and cost of its reproduction was disposed of with the statement that while such costs are relevant facts to be considered in determining values, there was nothing in the record to show that the evidence on these points was not considered along with other evidence in the case.

The commission had taken judicial notice of price trends. The court said that even a casual examination of the decisions of the United States Supreme Court unquestionably discloses definite and repeated sanction of this principle.

The commission had been of the opinion that valuable service was rendered the Ohio Bell by the American Telephone and Telegraph Company under a licensee contract, but the commission had determined that a portion of the payments claimed as an operating expense resulted in no benefit to the subsidiary company and should not be included. The court said that the commission was not bound to accept fully and unconditionally the statements of the company as to the amount claimed to have been paid to the parent company, nor was it concluded thereby as to the reasonableness or propriety of such service, nor bound to regard the amount paid as the true value of such service to the subsidiary. The commission had

found that the parent company's department of development and research did much for the benefit of the associated companies, but it had rejected some of the costs and expenses because not related to Ohio Bell Telephone operation. These charges were for television, radio, submarine cable, and similar items. The court said that it did not appear how there could be justification for a specific allowance for contingent liability for patent infringement for it did not appear that there had been any actual loss to the American Company in the way of loss or damage because of patent infringements of apparatus used by the Ohio Bell Telephone Company, and the mere possibility was said to be too remote and speculative to warrant a charge against the telephone user.

It stands to reason, said the court, that when proportionately large amounts are expended in maintaining the plant of a public utility in a high state of efficiency and good condition, the amount necessary for depreciation expense should be correspondingly less. Since there was found to be substantial support of the findings and order of the commission on the question of depreciation, the court permitted them to stand. The opinion continues:

"Depreciation" is inherently a complex subject. It becomes more so when the particular enterprise under consideration is of great magnitude and millions of dollars are involved. In weighing and dissecting the evidence, a knowledge of law plays a minor part. One attempting a comprehensive grasp of the intricacies presented should be both a skilled engineer and a competent accountant, versed in the problems peculiar to the public utilities field.

Return allowances of 7 per cent for the years 1925 to 1929 inclusive; 6½ per cent for the years 1930 to 1931, and 5

PUBLIC UTILITIES FORTNIGHTLY

per cent for years 1932 and 1933 were held not to be confiscatory in the light of economic conditions existing. *Ohio*

Bell Telephone Co. v. Public Utilities Commission of Ohio (3 N. E. (2d) 475).



Accounting for Fixed Capital

THE New York commission entered an order requiring a public utility company to make certain adjustments in fixed capital account so that they would represent as nearly as could be determined the cost of existing property. The commission made no finding, however, that the cost represented value of the property or that all expenditures were reasonably incurred.

Part of an underwriting fee paid by a parent company, which had been improperly allocated to its various subsidiaries without the approval of the commission, was required to be credited to organization account (one of the fixed capital accounts) and charged to the parent company. An item representing patent rights of no practical benefit to the subsidiary company, but allocated by the parent company, was required to be debited to surplus and credited to miscellaneous intangible capital.

A transfer was ordered from the land account to miscellaneous investments of

land owned by the utility company but not used in the public service. Property not found to be in existence was ordered to be eliminated from fixed capital. The account for substation equipment was required to be credited and miscellaneous suspense debited to the extent of the estimated cost of lighting protection towers and their foundations not yet in service, where a permit had not yet been secured from the city and it appeared that construction work might not proceed.

The company was criticized for amortizing through monthly charges the cost of a transmission line and writing down the amount charged to fixed capital without creating a reserve as required by the accounting system. The items written off, it was held, should be restored and a reserve built up appearing on the liability side of the balance sheet showing the amount of accrued depreciation. *Re Yonkers Electric Light and Power Co. et al.* (Case No. 2888).



Court Sustains Municipal Power to Prohibit Dilution of Natural Gas

AN injunction to restrain enforcement of a municipal ordinance prohibiting dilution of natural gas was denied where a master's determination that the ordinance was reasonable had sufficient support in the testimony. District Judge Atwell said:

Actually the complainant is introducing a large per cent of nitrogen inert. The fact that this large percentage of each cubic foot does not rob the customer of any B.T.U. value, to which he is entitled, is not sufficient to entitle the complainant to relief. The law having required the complainant to originally serve gas that had about 670 B.T.U.'s, and later having raised it to a thousand B.T.U.'s, and the fact that the complain-

ant has really been serving a gas with a little more than that legally required of it, does not excuse it for putting something else into the cubic foot so served, even though that something else does not rob the consumer of any heat value, if the legislative department of the municipality, clothed with police power, reasonably concludes that that something else is unsafe and liable to produce harm to the user. The economic answer does not reach the situation.

The utility company had insisted, according to the court "with creditable plausibility," that there was support for the theory as well as the effective gas service practice that some dilution was necessary for the mixture of gases

THE LATEST UTILITY RULINGS

served to customers. The utility obtained three different kinds of gases from different fields and introduced into the gas "something which is useless to the buyer, save and except as it may be a standardizer or stabilizer of many gases."

Such standardizing or dilution was asserted to be imperative when a mix-

ture of gases with different heat units was used. The court, however, held that where legislative action is within the scope of power conferred, fairly debatable questions as to reasonableness, wisdom, and propriety are not for the determination of the court. *Lone Star Gas Co. v. Fort Worth, et al.* 15 F Supp. 171.



Utility Extensions Where Cooperatives Propose to Operate

THE Wisconsin commission, on rehearing of an application by an electric utility company for authority to extend rural lines, denied without prejudice authority to extend in territory where a cooperative association proposed to operate. The Rural Electrification Administration had announced that a loan contract had been signed providing funds to finance construction.

The commission was not informed that the members of the cooperative would have to pay for electricity. Therefore, it could not compare the relative costs of electricity furnished by the company and by the cooperative association. It appeared, however, that the cooperative proposed to serve all in the area who desired to become members and to serve only members. The commission said:

Hence, under existing statutes and court decisions, the cooperative association does not appear to be a public utility which would require a certificate from this commission. No application therefor has been made by the association. Unless and until the law is changed in this respect, or application made, the commission is not called upon to review the financial responsibility, ability to render adequate service, or other policies of the association. The commission is basing its action herein on the assumption that the cooperative association intends to serve the territory at least as completely as a utility could be compelled to do by commission order. If evidence is received that

the cooperative association will not or is not accomplishing this purpose, the commission reserves the power to change its order herein.

A few farmers in one district asked that the company be permitted to extend to them, but the commission said that if this request were granted and the cooperative still went ahead, the commission would have a second agency to supply the same area, and, in the opinion of the commission, in the long run neither the interests of users of electricity nor of the utility would be served by having two competing agencies attempting to supply the same group of customers.

Concerning duplicate lines, wasteful investment, and excessive costs of service resulting from competition, the commission said:

Such results clash with the orderly development of rural electrification. But orderly development is essential for economy in an area where lack of density leads to higher investments per customer and higher service costs than in urban communities. Accordingly the commission believes that the majority of prospective users should have the opportunity of determining for themselves what grade and cost of service the cooperative will be able to provide. To afford this opportunity requires a denial of the company's application.

Re Wisconsin Power & Light Co. (Ca-85).



Telephone Extensions in Border-line Territory

COMPLAINT was made by subscribers of a telephone company, in terri-

tory where the exchange had been discontinued, asking service of another

PUBLIC UTILITIES FORTNIGHTLY

company on the ground that it would be more satisfactory than service from other exchanges of the present company. The Missouri commission entered an order subject to certain conditions in answer to the complaint.

The commission said that to require a telephone company to extend its lines unreasonably in a territory where the service can logically be secured through another switchboard places unnecessary burdens upon the exchanges in extending their lines to furnish the service, and many times will result in duplication. From the evidence submitted it appeared that the complainants and all prospective users in the area should indicate by signing a petition and presenting it to the company from which they sought service their desire for service, stating that they would take service for a period of one year or more if the service were

made available to them. It was provided that upon presentation of such petition that company should negotiate with the existing company for the purchase of its lines and should give consideration to the payment of severance damages for abandonment of the area by the other utility.

In the event of the failure to come to a satisfactory understanding concerning the transfer of the telephone line, it was provided that the companies might submit the matter in writing to the commission for arbitration, and in the event that they failed to agree to such arbitration, then the company from which service was sought should take immediate steps to extend its telephone lines as might be required for the rendition of telephone service. *Cook et al. v. Clinton County Telephone Co.* (Case No. 9168).



Bus Leases Equivalent to Conditional Sale

THE New York commission, in passing on the rates of a company operating motor busses, found that the company did not own many of the omnibusses used, but that they were leased from an affiliated company for a period of five years. The annual rent amounted to slightly more than 25 per cent of the cost of the busses. The leases provided that upon payment of the rent for the term set forth the operating company had the privilege or option to purchase the leased busses at a price of \$5 per bus.

The commission said that in practical effect these leases constituted nothing

more than a conditional sale of the busses with payments spread over a period of five years, and for this reason it appeared that, for the purpose of the proceeding, they should properly be treated as owned by the operating company. The value of the busses should be considered as a portion of the rate base, and the amount of rent paid should be deducted from operating expenses with an offsetting credit of an annual charge for depreciation of such equipment. *Twenty-five or More Persons Residing in City of Binghamton v. Triple Cities Traction Corp.* (Case No. 8282).



Financing Costs in Valuation

IN Pennsylvania, contrary to the practice in most jurisdictions, financing costs are allowed in a determination of value for rate making. The superior court of that state, in reviewing a commission order fixing sewerage rates, explained the treatment of such costs,

making a distinction between brokerage fees and financing costs in the nature of a discount.

An allowance made by the commission for what were described as mechanical costs, such as preparing, printing, and registering securities and legal

THE LATEST UTILITY RULINGS

and other expense incident to the issue of such securities, was sustained. The court, however, held that an additional allowance should be made for brokerage fees.

The cost of financing, as ordinarily used, it was said, would naturally include discounts, brokerage fees, and costs connected with the issuing of securities such as those referred to, but as an element of intangible property which the company is entitled to capitalize and make the basis of a fair return, it does not include discount which is a function of the difference between the interest rate fixed in the obligation and the prevailing rate for money in the market.

Explaining the Pennsylvania theory of allowing for financing costs, Judge Parker said:

An individual item which the utility is entitled to have capitalized or considered may be assigned more or less arbitrarily to a particular classification. The important matter for consideration is that the utility is entitled to credit for a proper item, but is entitled to such credit only once. The thought may be clarified by concrete illustrations. An item for interest on investment during construction might be assigned either to cost of financing or placed under the caption of organization expense. Printing or engraving of bonds with the neces-

sary legal expense incident to the issue might properly be allowed under either of these heads. An allowance might also be made for expense of financing by allowing a larger rate of return on the valuation fixed for there is a close relation between these two subjects. The return on capital invested is made as compensation for furnishing the capital necessary to pay for the property involved. It is largely in the discretion of the stockholders whether the entire capital shall be furnished by the sale of common or preferred stock, or by one or by both, or partly by these and by a mortgage bond issue or debentures. Consequently, it is sometimes maintained with a good share of reason that cost of financing should be considered and allowed in fixing a rate of return. We have in this state adopted the practice of allowing cost of financing to be capitalized as a separate item, but it is still important to see that the utility is not allowed the same credit twice in a different form. Under our former decisions, an allowance must be made on this account and it has not been taken into account in fixing rate of return or under other classification.

The court was of the opinion that in a rate case brokerage fees as such should be confined strictly to such fees as have been or would be paid to a broker for selling the bonds, debentures, or like securities which have a lien preferred to the common stock. *Cheltenham & Abington Sewerage Co. v. Public Service Commission* (186 Atl. 149).



Deposit to Secure Residence Phone When Business Phone Service Bills Unpaid

BANKRUPTCY by a telephone subscriber and unpaid bills at his place of business do not justify a telephone company in requiring a deposit for residence telephone service, on the ground that credit is not established, where the subscriber has always paid his residence telephone bills, according to an opinion by the Pennsylvania commission.

A former subscriber of a telephone company, after being out of the state for a few years, returned and requested telephone service at his residence. He had previously been engaged in business with a partner and had been forced into bankruptcy, leaving unpaid bills for

telephone service at his place of business. He had, however, retained telephone service at his residence after the bankruptcy and had paid all bills for that service.

The commission, after quoting from a rule of the company providing, among other things, that where an applicant's credit is not established a deposit may be required as security, held that the applicant, having paid in full for all residence telephone service previously received, had established his credit for future residence service. It was held unreasonable to require a deposit. *Conover v. Pennsylvania Telephone Corp.* (Complaint Docket No. 11128).

Other Important Rulings

A MOTOR carrier which claims the right to continue operation under the terms of the Federal Motor Carrier Act of 1935, according to a decision by the supreme court of Florida, must, in order to obtain an injunction restraining the state commission from enforcing state laws which would be applicable in the absence of the Federal statute, not only plead by an appropriate bill of complaint, but must duly establish by competent proof that it is entitled to the Federal status under the Federal act. *L. & L. Freight Lines, Inc. v. Douglass et al.* 169 So. 370.

The supreme court of Florida granted a motion to quash an alternative writ of mandamus to compel the state commission to issue a certificate of public convenience and necessity for the operation of an interstate motor carrier service, on the ground that the Interstate Commerce Commission had exclusive jurisdiction and that the state commission could not grant or deny applications for certificates for exclusively interstate motor carrier operations until application had first been made and authority obtained from the Interstate Commerce Commission. *State ex rel. L. & L. Freight Lines, Inc. v. Douglass et al.* 169 So. 389.

The Indiana commission denied authority to a telephone company to issue preferred stock for the purpose of providing funds with which to purchase the common capital stock of a corporation owning the building occupied under lease by the telephone company. The commission expressed the opinion that it would not be in the public interest for the utility to own and speculate in the stocks of other nonutility corporations. *Re Indiana Telephone Corp.* (No. 12359).

Authority to file property damage insurance containing a \$100 deductible clause was denied by the Indiana com-

mission on the ground that this would result in authorizing operation of motor vehicles without property damage insurance to and including \$100 contrary to the Motor Vehicle Act. *Re Bowman Elder* (No. 12330).

The court of civil appeals of Texas declared that it is unlawful for a public service corporation to discriminate between its consumers, and "the same rule applies to municipally owned plants." *Bland v. City of Hearne*, 95 S. W. (2d) 979.

The Michigan commission approved uniform standard rates for street lighting in municipalities served by an electric utility, where the proposed rates were as low, or lower than the rates charged by other utilities for similar service under similar conditions, it appearing that the present system of making special contracts with each municipality had resulted in a wide variation in rates charged for the same service under practically the same conditions. The standard rates, however, were not to interfere with existing contracts and franchises. *Re Michigan Public Service Co.* (D-2927).

The supreme court of Oklahoma sustained a commission order reducing telephone rates where a return of 8 per cent was allowed in addition to an allowance of 4 per cent annually for depreciation, but the court vacated an order requiring the installation of a common battery telephone system at an expense of more than \$10,000 in a small telephone exchange. The court said that the commission finding that the magneto type telephone system was atrophied, out of date, and obsolete was contrary to the undisputed evidence, and that, on the other hand, it appeared that said system was in common use in the smaller exchanges. *Standard Telephone & Telegraph Co. v. State et al.* 58 P. (2d) 121.

NOTE.—The cases above referred to, where decided by courts or regulatory commissions, will be published in full or abstracted in *Public Utilities Reports*.

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Public Utilities Reports

COMPRISING THE DECISIONS, ORDERS, AND
RECOMMENDATIONS OF COURTS AND COMMISSIONS



VOLUME 14 P.U.R.(N.S.)

NUMBER 4

Points of Special Interest

SUBJECT	PAGE
Temporary rate reduction under New York law -	337
Security issues to reimburse treasury - - -	344
Conditions of refunding operation - - -	344
Court and Commission jurisdiction over service -	349
Consent to corporate dissolution - - - -	354
Interexchange telephone rates - - - -	355
Electric rates for street lighting - - - -	359
Rate powers of Commission in absence of complaint	362
Liability of landlord for payment - - -	367
Necessity of complaint against rates - - -	369
Valuation of overbuilt property - - - -	369
Valuation of mains constructed before paving -	369
Judicial notice of prices and labor costs - -	369
Rates for auxiliary and standby service - -	389
Right to rate increase in absence of franchise -	391

These reports are published annually in five bound volumes, with an Annual Digest. The volumes are \$6.00 each; the Annual Digest \$5.00. A year's subscription to PUBLIC UTILITIES FORTNIGHTLY, when taken in combination with a subscription to the Reports, is \$10.00.

Titles and Index

TITLES

Avant Gas Service Co., Re	(Okla.) 391
Bronx Gas & E. Co. v. Maltbie	(N. Y. Ct. App.) 337
Huss (John) Co. v. Jersey Central Power & Light Co.	(N. J.) 389
Jersey Central Power & Light Co., Gutentag v.	(N. J.) 367
Jersey Central Power & Light Co., Huss Co. v.	(N. J.) 389
Lancaster Suburban Water Co., Herr v.	(Pa.) 369
Manawa Teleph. Co., Re	(Wis.) 355
Oconomowoc, Re	(Wis.) 359
Philadelphia Electric Co., Hickey v.	(Pa. Super. Ct.) 349
Towanda Water Works, Re	(Pa.) 344
Viola Light & P. Co., Re	(Wis.) 354
Western Teleph. Corp. v. Corporation Commission	(Okla. Sup. Ct.) 362
Yonkers Electric Light & P. Co. v. Maltbie. See Bronx Gas & E. Co. v. Maltbie	337



INDEX

- Constitutional law, fundamental principles, 337.
- Corporations, dissolution, 354.
- Depreciation, telephone company, 362; water utility, 369.
- Discrimination, fire protection charges, 369; present and future customers, 337.
- Evidence, judicial notice of prices, 369.
- Expenses, capital charges and maintenance, 369; rate case expenditures, 369.
- Payment, combined meter reading, 367; jurisdiction of courts and Commissions, 349; liability of landlord, 367; service denial to enforce, 369.
- Rates, Commission powers, 362, 391; electric auxiliary and standby service, 389; electric street lighting, 359; interexchange telephone calls, 355; minimum rate or service charge, 391; necessity of complaint, 369; right to increase, 391; temporary reduction order, 337; theories and methods, 362.
- Return, confiscation under temporary rates, 337; telephone company, 355, 362; water utility, 369.
- Security issues, conditions, 344; refunding operations, 344; reimbursement of treasury, 344.
- Service, exclusive jurisdiction of Commission, 349; petition for discontinuance, 391.
- Valuation, financing cost, 369; going value, 362, 369; overbuilt property, 369; property not owned, 369; unused property, 369; working capital, 369.



Bronx Gas & Electric Company

v.

Milo R. Maltbie et al.

[No. 331-A.]

The Yonkers Electric Light
& Power Company

v.

Milo R. Maltbie et al.

[No. 331-B.]

(— N. Y. —, — N. E. —.)

Rates, § 630 — Temporary reduction order — Reimbursement for utility — Statutory construction.

1. Section 114 of the Public Service Law authorizing the Commission to fix temporary rates pending final determination of a rate proceeding and authorizing the Commission to consider the effect of such rates in making its final determination is to be interpreted as providing that the consumers or the public shall make good to the company any loss which it may have sustained in temporarily exacting too little, and if finally the temporary rate is proved to have been too low the utility must be permitted and authorized to charge enough for its service to make up the loss, p. 340.

Constitutional law, § 1 — Fundamental principles.

2. The Constitution expresses fundamental principles, and if in the main these have been observed, that is all that can be required, p. 340.

Discrimination, § 43 — Present and future customers — Objection by company.

3. That all the customers of a public utility company paying final rates, including a take-up to compensate the utility for loss under temporary rates, may not be the same as those who paid the temporary rate is not an objection available to the company when its complaint is against temporary rates under which it alleges that it will suffer loss, p. 340.

Return, § 58 — Confiscation — Temporary rates — Consideration in final order.

4. A provision in a statute authorizing the Commission to fix temporary

NEW YORK COURT OF APPEALS

rates on the basis of original cost, without consideration of other elements affecting value, and authorizing the Commission to consider the effect of such rates in prescribing rates on final determination of the rate proceeding, is not unconstitutional, since it permits the utility company to make up any loss sustained under the temporary rates, p. 340.

Rates, § 630 — Temporary reduction.

Discussion by New York court of appeals of the propriety and desirability of a method of temporarily reducing rates pending final investigation, p. 339.

[July 8, 1936.]

APPEAL from order of appellate division annulling determination regarding temporary electric rates pending a hearing to fix final rates; order of appellate division reversed and order of Commission affirmed. For decision of appellate division, third department, see 245 App. Div. 419, 12 P.U.R.(N.S.) 26, 283 N. Y. Supp. 839, reversing 153 Misc. 589, 6 P.U.R.(N.S.) 341, 276 N. Y. Supp. 485; and for Commission decision, see 6 P.U.R.(N.S.) 132.

APPEARANCES: Shearman & Sterling (Hon. William L. Ransom, of counsel) for the petitioner, respondent; Sherman C. Ward (M. Maldwin Fertig, of counsel) for the appellants.

CRANE, C. J.: These two cases have been argued together as they present the same question of law. While this opinion will consider the facts in the Bronx Gas and Electric Company Case, the decision is applicable to both cases.

Petitioner, Bronx Gas and Electric Company, supplies both electric and gas service to consumers in the borough of the Bronx in the city of New York. This proceeding relates solely to the electric rates of that company. On May 2, 1934, the Public Service Commission, on its own motion, instituted the proceeding under review, wherein it undertook an inves-

tigation as to the rates and charges of the petitioner for electricity. The hearings for the taking of testimony were opened on May 9, 1934, and have continued up to the present time. On October 16, 1934 (6 P.U.R.(N.S.) 198) the Commission ordered the Bronx Company to put into effect, not later than November 1, 1934, temporary rates for electricity, pending a determination of final rates, which would reduce all rates in effect for metered electric service to general consumers by not less than 20 per cent. The Commission prepared a memorandum setting forth the facts upon which it based its temporary rates. It determined that the original cost of the physical property, less accrued depreciation, used by the petitioner in the rendition of electric service as of August 31, 1934, did not exceed \$6,698,428; that a 20 per cent reduc-

BRONX GAS & ELECTRIC CO. v. MALTBIE

tion in the rates for metered electricity to general consumers would reduce the company's annual operating income by \$426,000; and that the amount the petitioner would receive under its rates so reduced would be sufficient to yield a return in excess of 6 per cent on the original cost.

The Yonkers Electric Light and Power Company proceeding was instituted October 11, 1932. Hearings began June 19, 1933, and have continued, so it is stated, as rapidly as possible. On May 9, 1934, the corporation counsel of Yonkers moved the Commission to fix temporary rates pursuant to the above law, which was ordered October 23, 1934 (6 P.U.R. (N.S.) 132), the rates being reduced by an amount equal to 6 per cent of the charge then applicable under the provisions of its schedule of rates and charges. The Commission determined the original cost of the physical property, less accrued depreciation of the petitioner as of December 31, 1933, to be \$14,373,000, estimated its net revenue for the year ending August 31, 1934, at \$988,000, and allowed a return of slightly over 6 per cent on this value, amounting to \$872,000. The estimated revenue which the petitioner was receiving under its then rates exceeded this amount by \$116,000.

The appellate division (245 App. Div. 419, 12 P.U.R. (N.S.) 26, 283 N. Y. Supp. 839) annulled this action of the Public Service Commission on the ground that the fixing of the temporary or intermediate rate was illegal; and that § 114 of the Public Service Law, enacted by Chap. 287 of the Laws of 1934, which permitted such procedure, was unconstitutional.

That the Commission in both of these proceedings has fairly complied with this new section of the law is conceded, so that the sole question for this court to determine is whether the Public Service Commission can legally provide a temporary rate for electric service, pending the determination of the final rate.

To sustain the ruling of the court below, reliance is placed upon *Prendergast v. New York Teleph. Co.* 262 U. S. 43, 67 L. ed. 853, P.U.R.1923C, 719, 723, 43 S. Ct. 466, in which Mr. Justice Sanford wrote the opinion. Under the law as it then existed, the Commission of this state had fixed a temporary rate, pending final determination of the fair and reasonable rate. This was held to be confiscatory and the temporary injunction issued by the United States district court was upheld on appeal. Mr. Justice Sanford in his opinion said: "Nor did the fact that the orders of the Commission merely prescribed temporary rates, to be effective until its final determination, deprive the company of its right to relief at the hands of the court. The orders required the new reduced rates to be put into effect on a given date. They were final legislative acts as to the period during which they should remain in effect pending the final determination; and if the rates prescribed were confiscatory, the company would be deprived of a reasonable return upon its property during such period, without remedy, unless their enforcement should be enjoined. Upon a showing that such reduced rates were confiscatory, the company was entitled to have their enforcement enjoined pending the con-

NEW YORK COURT OF APPEALS

tinuance and completion of the rate-making process."

Certain things were established by this decision: (1) The temporary rate is confiscatory if it denies a fair return upon the companies' investment, that is, the temporary rate must give a fair return upon all those elements of capital value which must be considered in fixing the final rate. Of course this means that no temporary rate can ever be fixed, for, having all the elements upon which to fix a final rate, there is no necessity of calling it a temporary one. (2) The temporary rate, as fixed by the Commission in this Prendergast Case, *supra*, was a final rate, as the law had provided no means by which the company could be repaid its loss, should it finally be determined that the temporary rate was too low. (3) The court recognized that the public was entitled to a remedy and that the company could not profit through delays in legal procedure. It therefore recognized the practice of requiring the company, upon obtaining a preliminary injunction, to give a large bond, conditioned upon the repayment to consumers of the overcharges, if it should finally be determined that the Public Service Commission was right.

After this decision the legislature of the state of New York was confronted with this quare: Was it ever possible to compel public service corporations to charge reasonable rates, pending the long drawn-out and interminable proceedings to establish a fair return? The establishment of the proper base rate, or the present capital investment, upon which a company is entitled to a fair return, has become

an intricate, involved, tedious proceeding, extending into months and years. Much of the evidence produced is expert testimony, varying in worth and uncertainty, presenting a maze of detail and figures. *Louisville v. Cumberland Teleph. & Teleg. Co.* (1912) 225 U. S. 430, 56 L. ed. 1151, 32 S. Ct. 741. Without suggesting in any way that the public service corporations have not acted with utmost good faith, we can see the opportunity, as did the legislature, for the intentional delay in these proceedings whereby unwarranted profits may be obtained. The fixing of a reasonable rate by these public service corporations, who enjoy from the public such valuable franchises, to be of any value should be a matter of speedy regulation. The courts should not encourage such finesse in figuring as to make these hearings upon rate questions an obstruction instead of a relief. Of course caution must be used on both sides, for the desire for improper gain is oftentimes as eager with the consumer, or his spokesman, as with the corporation.

[1-4] Recognizing the present-day conditions surrounding the difficulty in determining the proper rate, we come back to the question: Is it possible for the law, legislature, or Congress to provide for a temporary rate, pending these lengthy hearings? The legislature evidently had in mind all that I have here said regarding the Prendergast Case, *supra*, and the difficulties there pointed out when in 1934, by Chap. 287 of the Laws of that year, it added subdivision 114 to the Public Service Commissions Law. This section reads:

BRONX GAS & ELECTRIC CO. v. MALTBIE

"114. Temporary rates. To facilitate prompt action by the Commission in proceedings involving the reasonableness of the rates of any public utility and to avoid delay in any such rate proceeding, the Commission is hereby authorized to require any public utility company to establish, provide, and maintain continuing property records, including a list or inventory of all of the physical property actually used in the public service, and to require any public utility company to keep its books, accounts, and records in such manner as to show currently the original cost of said physical property and the reserves accumulated to provide for the retirement or replacement of said physical property.

"The Commission may in any such proceeding, brought either on its own motion or upon complaint, upon notice and after hearing, if it be of opinion that the public interest so requires, immediately fix, determine, and prescribe temporary rates to be charged by said utility company pending the final determination of said rate proceeding. Said temporary rates so fixed, determined, and prescribed shall be sufficient to provide a return of not less than 5 per centum upon the original cost, less accrued depreciation, of the physical property of said public utility company used and useful in the public service, and if the duly verified reports of said utility company to the Commission do not show the original cost, less accrued depreciation, of said property, the Commission may estimate said cost less depreciation and fix, determine, and prescribe rates as hereinbefore provided.

"Temporary rates so fixed, deter-

mined, and prescribed under this section shall be effective until the rates to be charged, received, and collected by said utility company shall finally have been fixed, determined, and prescribed. The Commission is hereby authorized in any proceeding in which temporary rates are fixed, determined, and prescribed under this section, to consider the effect of such rates in fixing, determining, and prescribing rates to be thereafter charged and collected by said public utility company on final determination of the rate proceeding."

We note at once that the temporary rate shall be sufficient to provide a return of not less than 5 per centum upon the original cost, less accrued depreciation of the physical property of the utility company used and useful in the public service. At least there is some accuracy in these figures; they can be fixed with some certainty and are not dependent altogether upon speculative expert opinion. *Clark's Ferry Bridge Co. v. Pennsylvania Pub. Service Commission* (1934) 291 U. S. 227, 78 L. ed. 767, 2 P.U.R. (N.S.) 225, 54 S. Ct. 427.

These are not all the factors, however, which must be taken into consideration in fixing finally a fair return or rate, or any rate for that matter, which has the effect of being final. According to *Smyth v. Ames* (1898) 169 U. S. 466, 42 L. ed. 819, 18 S. Ct. 418, other elements must be considered in order to ascertain capital value,—the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost

of construction, the probable earning capacity of the property, and the particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters of consideration and are to be given such weight as may be just and right in each case. Other elements besides these may enter into the problem, according to circumstances. *West v. Chesapeake & P. Teleph. Co.* (1935) 295 U. S. 662, 79 L. ed. 1640, 8 P.U.R.(N.S.) 433, 55 S. Ct. 894. Therefore, we must conclude, in fact it is apparent and conceded that if this temporary rate, fixed according to this added section, is to be final, or has any element of finality, it is unconstitutional and void.

We cannot imagine the legislature, in the face of the *Prendergast Case*, doing such a foolish thing as reenacting, though in different language, a law giving the Public Service Commission power to do that which the United States Supreme Court had determined it could not do. The legislature, evidently by § 114, intended to meet the criticism in the *Prendergast Case* and to follow the way impliedly pointed out, for a proper law. If the courts required the public utility company to put up a bond to pay back to the consumers the overcharges which it had exacted, pending a hearing, why was it not just as feasible and legal to turn the remedy about and provide that the consumers or the public should make good to the company the loss which it may have sustained in temporarily exacting too little? This is what our legislature has done, and this we think is the meaning which we must give to its language, if it is to

14 P.U.R.(N.S.)

have any sense at all in the light of the past.

The Commission fixes a temporary rate pending the hearing. It is based upon the elements stated, which are not all of those required to fix a permanent rate. As before stated, this would be impossible, if we must consider in fixing a temporary rate all the elements required for the final rate; no temporary rate could ever be fixed. This also is self-evident. Therefore, to meet these conditions the temporary rate is fixed, within reasonable limits, upon figures which can be with some exactness obtained from the books of the company, showing original cost or investment; and if finally, when the proceeding ends, the temporary rate is proved to have been too low, the utility must be permitted and authorized to charge enough for its service to make up the loss. The consumer must pay what he should have paid, and the only way to do it is to fix a rate high enough to make up this loss.

True it is that all the consumers paying the final rate, including the take-up, may not be the same as those who paid the temporary rate. A few consumers may be new customers paying what the old consumer should have paid. Such instances are of minor importance; the percentage must be very small. We can never work our institutions of government if we refine matters to such an extent that we have to consider all these little details. The Constitution expresses fundamental principles, and if in the main these have been observed, this is all that can be required. Besides, when we speak of the consumer—the customer—we mean the public, not individuals. San

BRONX GAS & ELECTRIC CO. v. MALTBIE

Diego Land & Town Co. v. Jasper (1903) 189 U. S. 439, 47 L. ed. 892, 23 S. Ct. 571.

Anyhow, this is no concern of the company, for its complaint here is that because of the temporary rate it will suffer loss. If the loss is made up to it in the final rate the objection is obviated. That the Commission is authorized, in fact compelled, to make up this loss, if any, through the final rate, is the meaning and must be the meaning of these words in § 114: "The Commission is hereby authorized in any proceeding in which temporary rates are fixed, . . . to consider the effect of such rates in fixing, . . . rates . . . on final determination. . . ." "Experience"—how much better this is than expert testimony, whether dealing in history or prophecy. *Willcox v. Consolidated Gas Co.* (1909) 212 U. S. 19, 53 L. ed. 382, 29 S. Ct. 192, 48 L.R.A.(N.S.) 1134, 15 Ann. Cas. 1034; *Knoxville v. Knoxville Water Co.* (1909) 212 U. S. 1, 53 L. ed. 371, 29 S. Ct. 148; *Cedar Rapids Gas Light Co. v. Cedar Rapids* (1912) 223 U. S. 655, 669, 56 L. ed. 594, 32 S. Ct. 389.

This section, as we have said, forces the Public Service Commission to consider the returns from the temporary rate and to establish the permanent rate, or the final rate, accordingly; that is, if the temporary rate has proved to be too low the final rate

must make it up to the company. Over what time it is necessary to provide a rate sufficient to make up the loss, or to include the take-up, is a matter of adjustment, machinery, and method. These matters are all in the hands of the Public Service Commission, which may increase or modify a rate to meet the circumstances at any time. Here is no *nunc pro tunc* rate as in *Oklahoma Nat. Gas Co. v. Russell*, 261 U. S. 290, 67 L. ed. 659, P.U.R.1923C, 701, 43 S. Ct. 353.

We therefore are of the opinion that this law is not unconstitutional; that it meets the defects in prior procedure, and affords the company ample protection as well as the consumer. It is a fair attempt to meet the time element, which is necessary to be considered in rate-fixing hearings.

Giving the respondents all the elements of value which they say should be considered, the companies then would have a return at the temporary rates, the Yonkers Company 4.89 per cent, and the Bronx Company 4.84 per cent.

For these reasons in each proceeding, the order of the appellate division should be reversed, and the determination of the Public Service Commission affirmed, with costs in all courts.

Lehman, O'Brien, Crouch, Loughran, and Finch, JJ., concur; Hubbs, J., dissents.

Ordered accordingly.

PENNSYLVANIA PUBLIC SERVICE COMMISSION

PENNSYLVANIA PUBLIC SERVICE COMMISSION

Re Towanda Water Works

[Securities Docket No. 161.]

Security issues, § 120 — Conditions — Refunding operation — Bonds.

1. An arrangement for refunding noncallable 5 per cent bonds by the issuance of 4 per cent bonds by direct exchange on a par for par basis, or by sale of the 4's at par and the use of the proceeds to refund the 5's, with the provision that if any holders of 5's are unwilling to accept 4's or cash for their holdings, the related 4's will not be authenticated until maturity of the 5's, when they will be sold at par for such maturity, and with the further provision that as 5's are surrendered for exchange they (because of their uncallability) shall be retained by the trustee as collateral security for the other issue, appears to be satisfactory if, first, the trustee is restricted from selling the 5's in its hands and retains them only for the purpose of insuring proportional distribution of proceeds of foreclosure sale as between holders of outstanding 4's and 5's in the event of default by the company; and, second, the trustee is required to cancel all of the 5 per cent bonds after the entire issue shall have been surrendered to it; and the mortgage should so provide, p. 346.

Security issues, § 84 — Purpose — Reimbursement of treasury.

2. Authorization was granted to issue bonds in reimbursement of a corporation treasury for expenditures in retiring a like amount of bonds bearing a higher interest rate, it appearing that the company had impaired its working capital in effecting this retirement, the new bonds to be delivered to creditors in cancellation of a like amount of current indebtedness, or, failing that, to be sold at par and the proceeds to be used for paying off a like amount of current indebtedness, p. 346.

Security issues, § 120 — Conditions — Time of issuance — Bonds.

3. Authorization to issue bonds to be sold for cash in order to pay for additions and betterments should contain the provision that the bonds shall be taken down and sold only as the need for the cash proceeds arises, p. 346.

Security issues, § 87 — Reimbursement for uncapitalized construction expenditures — Overcapitalization.

4. No uncapitalized balance for construction expenditures exists against which the Commission may permit the issuance of bonds when expenditures are in fact not only capitalized but overcapitalized and alleged uncapitalized expenditures result from a donation to the company of stock through a reduction in the amount of stock outstanding on a percentage basis, it appearing that the moneys actually expended for the property were derived from the sale of stocks or bonds, p. 346.

[May 12, 1936.]

APPPLICATION for approval of issuance of first and refunding mortgage bonds; application granted in part.

RE TOWANDA WATER WORKS

By the COMMISSION: The petitioner in this case, a corporation serving water to the public in the boroughs of Towanda and Monroe, Bradford county, seeks Commission approval of the issuance of \$175,000 principal amount of its first and refunding mortgage 4 per cent bonds, due November 1, 1965. Before going into a discussion of the proposed issue, however, it is necessary to take up certain matters which have an indirect bearing upon the case.

Due to inadequate records, petitioner is unable to state the actual original cost of its property, and in substitution has offered to the Commission an historical cost estimate of the property in use on January 1, 1922, plus additions and less retirements to date at cost, as follows:

Historical cost estimate, January 1, 1922	\$212,195.07
Additions, January 1, 1922 to January 1, 1936	60,902.33
	<u>\$273,097.40</u>
Retirements, January 1, 1922 to January 1, 1936	2,841.52
	<u>Original or historical cost of property now in use</u>
	<u>\$270,255.88</u>

Against this property there are now outstanding securities as indicated below:

First mortgage 5% bonds, due 1962	
Issued	\$150,000
Reacquired	25,000
Outstanding	<u>\$125,000</u>
Common stock (2,000 shares, par \$100)	200,000
Present capitalization..	<u>\$325,000</u>

Comparison of the final figures in the above two tables indicates that petitioner is now overcapitalized by

approximately \$55,000. That situation is to be remedied, however, for the petition filed in this proceeding states that "as a part of this transaction the stockholders have agreed that the capital stock of each stockholder shall be reduced sixty per cent, so that before this security (the new bonds) is issued, the capital stock will consist of eight hundred shares of the par value of \$100 each." This will result in a write-down of \$120,000 in petitioner's capital stock, making its adjusted present capitalization \$205,000, or less than the original or historical cost of the property against which it is outstanding.

Petitioner now asks permission to issue \$175,000 of first and refunding mortgage 4 per cent bonds, as stated heretofore, which bonds are to be secured by a first mortgage on all of petitioner's property, are to be dated November 1, 1935, and are to mature November 1, 1965. The mortgage securing the issue contains a sinking-fund provision whereby the trustee shall have not less than \$2,000 available each year for the redemption or purchase of bonds for the fund.

The purposes for which petitioner proposes to issue these bonds are given below:

To refund \$125,000 of first mortgage 5% bonds, due 1962	\$125,000
To reimburse treasury for expenditures in reacquiring \$25,000 of first mortgage 5% bonds, due 1962 ...	25,000
To provide funds for the purchase of certain watersheds, and the betterment of pipe lines	15,000
To reimburse treasury for expenditures for fixed capital additions ..	10,000
Total	<u>\$175,000</u>

These purposes will be taken up in the order in which they appear above.

PENNSYLVANIA PUBLIC SERVICE COMMISSION

[1] The refunding of the \$125,000 of 5 per cent bonds is expected to be accomplished by direct exchange for the 4 per cent bonds on a par-for-par basis, or by the sale of 4 per cent bonds at par and the use of the proceeds to refund the 5's. However, the 5 per cent bonds are not callable, and the mortgage provides that in the event that any holders of the 5's are unwilling to accept either 4 per cent bonds or cash for their holdings, then the related 4's will not be authenticated by the trustee and delivered to the company until 1962, when they will be sold at par to provide funds for the maturity of the 5 per cent bonds. Because of the noncallability of the 5's, the mortgage also provides that as 5 per cent bonds are surrendered to the trustee in exchange for 4's, the 5 per cent bonds shall be retained by the trustee as collateral security for the other issue. This arrangement appears satisfactory if, first, the trustee is restricted from selling the 5 per cent bonds in its hands and retains them only for the purpose of insuring proportional distribution of proceeds of foreclosure sale as between holders of outstanding 4 per cent and 5 per cent bonds in the event of default by the company; and, second, the trustee is required to cancel all the 5 per cent bonds after the entire issue shall have been surrendered to it. The Commission will require that the mortgage be amended to include provisions carrying these ideas into effect.

[2-4] As to the \$25,000 of 4 per cent bonds to be issued in reimbursement of treasury for expenditures in heretofore retiring a like amount of 5's, it appears that the company impaired its working capital in effecting

this retirement, as a result of which it has accumulated liabilities on notes and open accounts amounting to approximately \$35,700, for the payment of which there are available only about \$11,400 of liquid assets. Petitioner proposes to deliver the \$25,000 of 4 per cent bonds to these creditors in cancellation of a like amount of the current indebtedness, or, failing that, to sell the \$25,000 of bonds at par and pay off a like amount of current indebtedness from the proceeds.

A block of \$15,000 of the 4's are to be sold for cash which is to be expended as follows:

For the purchase of lands adjacent to petitioner's water collection system	\$5,000
For the purchase of land and construction of a water collection system on Lee's run, permit for which has been given by the department of health	4,000
For the betterment of pipe lines in the borough of Towanda	6,000
Total	\$15,000

The land adjacent to the water collection system is to be purchased in order to protect petitioner's sources of water supply from pollution. The pipe line betterment consists of the substitution of 28,292 feet of cast iron pipe of various sizes, estimated to cost \$62,784, for a like amount of steel pipe, the cost of which was \$21,831. The \$6,000 bond issue represents a capitalization of a part of the difference between these sums. The petition recites that these various land purchases, construction and pipe installation are not to be accomplished immediately, but that the land is to be bought after agreement with the present owners, and that the pipe replacement is to be made as may become necessary. Petitioner stipulates that

RE TOWANDA WATER WORKS

bonds of this block of \$15,000 shall be taken down and sold only as the need for the cash proceeds arises, and the Commission will so stipulate in its order.

Petitioner also proposes to issue \$10,000 of the 4 per cent bonds in reimbursement for uncanceled construction expenditures made in the past, and either deliver them to creditors holding notes and on open accounts at par in payment of their claims, or sell the bonds at par and pay off the claims with the proceeds. The uncanceled construction expenditures are based upon the following computation:

Original or historical cost of property now in use (see prior table)		\$270,255.88
Capitalization:		
Stock (after adjustment)	\$80,000	
Bonds (exclusive of \$15,000 to be held for further additions) ..	150,000	230,000.00
Uncanceled expenditures against which \$10,000 of bonds are to be issued		<u>\$40,255.88</u>

It appears from the record, however, that there is no uncanceled balance which the Commission, under the law, may permit to be capitalized through the proposed bond issue. Article III, § 4, Clause (d) of The Public Service Company Law (66 PS, § 202) provides that the Commission shall approve the issuance of bonds for the purpose of "reimbursement of moneys actually expended for . . . construction, completion, extension, improvement, or betterment of the applicant's facilities . . . not secured or obtained from the issue of its stock, bonds . . ." (underscoring ours). In this case the cap-

italization of petitioner is \$325,000, and in consequence the "uncanceled expenditures" referred to are in fact not only capitalized, but overcapitalized. The variation arises because of the donation to the company of \$120,000 of its stock, already discussed. Inasmuch as the moneys actually expended for \$40,255.88 of petitioner's property were derived from the sale of stocks or bonds, the proposed \$10,000 bond issue must be disappeared.

Interest upon the \$165,000 of bonds of the new issue which the Commission will approve amounts to \$6,600 annually. The aggregate bond servicing charges of the company will be \$7,397, however, because of certain unamortized discount upon the 5 per cent bonds which the company intends to write off over the life of those bonds. The \$7,397 of servicing charges were earned 2.4 times in the year ended December 31, 1935.

Upon consideration of this application, the amount and character of the securities involved herein, and other relevant matters, the Commission finds and determines that the purposes of issuance of \$165,000 principal amount of said securities are authorized by law; that the issuance of said securities in that amount is reasonably necessary for those purposes; and that approval of the application, in so far as it pertains to said \$165,000 of securities, is necessary or proper for the service, accommodation, or convenience of the public.

The foregoing finding and determination, however, shall not be construed to imply any guaranty or obligation on the part of the Commonwealth of Pennsylvania as to such securities, nor shall it be taken as requir-

PENNSYLVANIA PUBLIC SERVICE COMMISSION

ing the Commission, in any proceeding brought before it for any purpose, to fix a valuation which shall be equal to the total of these and any other outstanding securities of petitioner, or to approve or prescribe a rate which shall be sufficient to yield a return on said securities.

The Commission finds that the purpose of issuance of \$10,000 principal amount of securities is not authorized by law, and consequently that approval of such issuance is not necessary or proper for the service, accommodation, or convenience of the public; therefore,

Now, to wit, May 12, 1936, it is *ordered*: That the issuance of \$165,000 principal amount of petitioner's first and refunding mortgage 4 per cent bonds, due November 1, 1965, upon the terms recited in the application, subject to the following amendments, to wit:

1. That the mortgage securing said bonds shall provide that the first mortgage 5% bonds held by the trustee as collateral security for payment of the first and refunding mortgage 4% bond may not be disposed by the trustee under any circumstances, but that said 5% bonds shall be held by the trustee only for the purpose of ensuring that, in case of default under the mortgage by the company, the holders of 4% bonds shall be equally and ratably secured with the holders of 5% bonds; and

2. That the mortgage securing said bonds shall provide that, upon surrender to the trustee of all presently issued and/or outstanding first mortgage 5% bonds, said bonds shall be canceled and cremated;

be and is hereby approved, and that a certificate of public convenience issue in evidence thereof.

It is further ordered: That none of said bonds, the issuance of which is hereby approved, shall be issued until after petitioner shall have filed with this Commission:

1. An affidavit that \$120,000 par value of its common stock has been surrendered to it by its stockholders and canceled, accompanied by a copy of the return required to be filed with the office of the Secretary of the commonwealth as to the resulting decrease in outstanding capital stock;

2. An affidavit that the mortgage securing the first and refunding mortgage 4 per cent bonds has been amended as indicated herein, accompanied by a certified copy of such amendments.

It is further ordered: That \$15,000 principal amount of bonds, the issuance of which is hereby approved, shall not be sold until such sale is rendered necessary by virtue of petitioner's being ready to proceed with the purchase of land, the construction of a water collection system, or the replacement of pipe lines, as recited in the application; and that on July 1, 1936, and at intervals of each three months thereafter, petitioner report to this Commission the amount of said block of \$15,000 of bonds which it shall have sold prior to the filing of such report, and the purpose for which the proceeds of sale shall have been used.

It is further ordered: That the issuance of \$10,000 principal amount of petitioner's first and refunding mortgage 4 per cent bonds, due November 1, 1965, be and is hereby disapproved.

Martin L. Hickey

v.

Philadelphia Electric Company

(— Pa. Super. Ct. —, 184 Atl. 553.)

Payment, § 5 — Jurisdiction of court — Charges collected for meter tampering.

The court has no jurisdiction over a suit by a customer to recover an amount collected by an electric utility company from a customer under protest for damage from meter tampering, as compensation for costs of inspection, and for consumption of unmetered current, in view of the exclusive jurisdiction of the Commission over such matters.

Service, § 31 — Exclusive jurisdiction of Commission.

Discussion of the exclusive jurisdiction of the Commission over public utility service, including matters relating to the denial of service because of meter tampering and the payment of compensation for damage, p. 350.

Payment, § 6 — Commission jurisdiction — Charges because of meter tampering.

Discussion of the exclusive jurisdiction of the Commission over questions relating to payment exacted by an electric utility from a customer for unregistered current because of meter tampering, p. 350.

[April 24, 1936.]

APEAL from order of municipal court dismissing an electric utility petition raising the question of the jurisdiction of the court over an action to recover amounts paid to an electric company as a result of meter tampering; lower court held to be without jurisdiction.

Argued before, Keller, P. J., and Cunningham, Parker, James, and Rhodes, JJ.

APPEARANCES: Bernard P. Carey and Raymond J. Bittle, both of Philadelphia, and Frank M. Hunter, of Chester, for appellant; Nathan Agran, of Philadelphia, for appellee.

KELLER, President Judge: The plaintiff sued the defendant in assumpsit to recover \$60, which he

averred defendant had unlawfully and unjustly required him to pay before it would resume supplying him with electricity. In his statement of claim, he averred that defendant's agents had previously cut the electric wires leading into his premises, shut off the electrical current, and removed the meter because, they alleged, the meter had been tampered with. Said charge of \$60 had been imposed by defendant to reimburse itself for the damage al-

PENNSYLVANIA SUPERIOR COURT

leged to have been done it by the tampering with said meter, and as compensation for costs of inspection and the consumption of unmetered current since said injury to the meter; and, plaintiff averred, it had been paid by him under protest.

The defendant filed a petition, under the Act of March 5, 1925, P. L. 23 (12 PS, § 672 et seq.), raising the question of the jurisdiction of the court below to hear and determine the cause of action for which suit was brought, and averring that it came within the matters committed to the jurisdiction of the Public Service Commission by the Public Service Company Law of July 26, 1913, P. L. 1374, as amended (66 PS, § 1 et seq.). A rule to show cause was granted, and the plaintiff filed an answer, admitting many of the averments in the petition, but asserted the jurisdiction of the court over the cause of action. On the pleadings thus presented, the plaintiff's statement of claim, the petition and answer,¹ and without depositions, the court preliminarily determined that it had jurisdiction of the cause of action for which suit was brought, dismissed the petition, and discharged the rule. Within fifteen days defendant appealed to this court. We are of opinion that the court erred in dismissing defendant's petition and discharging the rule granted thereon.

Our supreme court, in construing the Public Service Company Law aforesaid, said that it "was intended

to establish a complete and uniform system throughout the state for the enforcement of such powers as were conferred upon the Public Service Commission by that statute." *York Water Co. v. York* (1915) 250 Pa. 115, 118, 95 Atl. 396, 397.

The term "service" is used in the Public Service Company Law in its broadest and most inclusive sense, and embraces "any and all acts done, rendered, or performed . . . by public service companies in the performance of their duties to their patrons." Article 1, § 1 (66 PS, § 1). The law imposes on public service companies the duty, *inter alia*, "to render and furnish all such service at prices, charges, rates, . . . or compensation that shall be just and reasonable, and in conformity with such reasonable regulations or orders as may be made by the Commission" (Art. 2, § 1 (b), 66 PS, § 22). It provides that it shall be lawful for every public service company "to demand, collect, and receive fair, just, and reasonable . . . charges or . . . compensation for each and every service rendered . . . by it" (Art. 3, § 1 (a), 66 PS, § 151) and "to have reasonable rules and regulations, subject to existing law and the provisions of this act, governing the conduct of its business and the conditions under which it shall be required to render service. It may require the payment of charges in advance . . . or impose penalties for failure to pay promptly: Provided, That such advance charges

¹ [1] Unlike a hearing on preliminary objections to a bill in equity (Equity Rule 48—See *Midland Borough v. Steubenville, E. L. & B. V. Traction Co.* [1930] 300 Pa. 134, 150 Atl. 300), the court is not confined to the averments appearing in the plaintiff's statement or bill, for the Act of March 5, 1925, P. L. 23 (12 PS, §§ 672-675) contemplates the filing of a petition, the granting of a rule, the filing of an answer, and the taking of depositions, if required to establish facts averred in the petition or answer.

... or penalties are reasonable and apply equally and without discrimination or preference to all . . . consumers, and patrons, under like conditions and under similar circumstances." Article 3, § 1 (c), 66 PS, § 153. And it provides that it shall be unlawful for any public service company "to charge, demand, collect, or receive, directly or indirectly, by any special rate, rebate, drawback, abatement, or other device whatsoever, from any person or corporation, for any service rendered or to be rendered, a greater or less compensation or sum than it shall demand, charge, collect, or receive from any other person or corporation for a like and contemporaneous service under substantially similar circumstances and conditions." Article 3, § 8 (a), 66 PS, § 262 (a). The Commission is expressly given power by the statute to "inquire into and regulate the service, rates . . . or charges of any and all public service companies" (Art. 5, § 1, 66 PS, § 471); to determine, after hearing, had upon its own motion, or upon complaint, whether the service, facilities, rules, regulations or practices of any public service company in respect to, or in connection with, or employed by, or in the performance of its public duties, are unjust or unreasonable; and upon determining the same to be unjust or unreasonable, the Commission is given power and is directed to determine and specify the just, reasonable, and sufficient service, facilities, rules, regulations, or practices thereafter to be put in force, observed, and used by said public service company in the performance of its public duties; and thereupon it shall be the duty of every

public service company affected by said order to observe and obey said order and all and every the mandates and requirements thereof (Art. 5, § 2, 66 PS, § 491). And by Art. 5, § 5 (66 PS, § 511), it is provided that if the Commission, after hearing, upon complaint or upon its own motion, shall determine, inter alia, that any acts which have been done or omitted to be done, or any regulations or practices which have been enforced by any public service company in relation to any service rendered, were unjust and unreasonable, or unjustly discriminatory, it shall have power and authority to make an order for reparation and direct the payment to any complainant of the damages sustained in consequence of said unjust, unreasonable, or unlawful acts, regulations, or practices; and that: "No action shall be brought in any court on account of the wrongs or injuries referred to in this section, unless and until the Commission shall have determined that the . . . regulation . . . practice, act, or omission in question was unjust, unreasonable, or unjustly discriminatory . . . and, then, only to recover such damages as may have been awarded and directed to be paid by the Commission in said order."

By virtue of the power expressly recognized in Art. 3, § 1 (c), 66 PS, § 153, above, the defendant company admittedly adopted, inter alia, the following rules and regulations, which it contends are reasonable:

"1.4. Application of Rates. The rates apply only to the use of electricity of such form as is regularly furnished by the company in the locality in which premises to be served are situated, and apply only to the regular

PENNSYLVANIA SUPERIOR COURT

and usual supply of electricity. The supply of service for any purpose, at any location, is contingent upon payment of all charges provided for in this tariff as applicable to the location and the character of service."

"5.1. Customer's Responsibility for Equipment. The company shall keep in repair and maintain its own property installed on the premises of the customer; provided, however, that if property of the company on the premises of the customer is damaged, the cost of inspection of, and repairs to, such property, shall be paid by the customer. The customer shall not permit any person, except a company employee having a standard badge of the company for the current calendar year or other company identification, to break any seals upon, or to do any work on, any meter or other apparatus of the company located on the customer's premises."

"11.2. Discontinuance by Company. The company reserves the right to discontinue its service on reasonable notice and to remove its equipment in case of nonpayment of bill or violation of the company's rules and regulations; or, without notice, for abuse, fraud, or tampering with the connections, meters, or other equipment of the company. Failure by company to exercise this right shall not be deemed a waiver thereof."

Pursuant to these rules, it claimed the right to discontinue its service to the plaintiff because of tampering with its meter; and to recover from the plaintiff as a prerequisite to renewing the service the reasonable cost of the inspection of and repairs to its equipment, and fair and reasonable

compensation for the current consumed on plaintiff's premises after the meter had been tampered with, in consequence of which the current had not registered on the meter; and it contended that \$60 was a just, fair, and reasonable charge for the services embraced by these items.

It seems clear to us that all of these matters fell within the powers and authority expressly conferred on the Commission, as above, and that if the plaintiff felt himself aggrieved by the acts, regulations, or practices of the defendant company, or claimed that they or any of them were unjust or unreasonable, the forum to have those questions settled and determined in a way that should be fair to both parties and at the same time should protect the public and prevent unjust and unlawful discrimination in the application of the rules, regulations, practices, and charges of the defendant company in such circumstances, was the Public Service Commission.

The gravamen of the plaintiff's complaint is that the defendant company in the enforcement of its rules and regulations set up or put into effect practices which were unjust and unreasonable, and, in consequence, compelled him to pay charges which were in excess of what he justly and reasonably should have been required to pay; to recover back the excess thus unlawfully exacted from him he brought this suit. But these are matters which the general assembly, in the establishment of a complete and uniform system for the supervision and regulation of public service companies, has decided are for the determination of the Public Service Commission, to whom it has specially com-

HICKEY v. PHILADELPHIA ELECTRIC CO.

mitted them, to the exclusion of the courts, until the Commission shall have passed upon the justness and reasonableness of the acts, regulations, and practices complained of.

These conclusions are supported by the following decisions, inter alia, of the supreme court and of this court: *Bellevue v. Ohio Valley Water Co.* (1914) 245 Pa. 114, 91 Atl. 236, bill to enjoin defendant company from increasing its rates; *New Brighton v. New Brighton Water Co.* (1915) 247 Pa. 232, 93 Atl. 327, mandamus looking to acquisition by borough of defendant's water works; *St. Clair v. Tamaqua & P. E. R. Co.* 259 Pa. 462, P.U.R.1918D, 229, 103 Atl. 287, 5 A.L.R. 20, bill to restrain new routing of cars and charging more than 5-cent fare; *Pittsburgh R. Co. v. Pittsburgh*, 260 Pa. 424, P.U.R.1918F, 301, 103 Atl. 959, bill to enjoin construction of highways at grade; *Klein-Logan Co. v. Duquesne Light Co.* (1918) 261 Pa. 526, 528, P.U.R.1919A, 524, 104 Atl. 763, bill to enjoin termination of contract; *Leiper v. Baltimore & P. R. Co.* (1918) 262 Pa. 328, P.U.R. 1919C, 397, 105 Atl. 551, bill to restrain defendant from charging a higher rate than that fixed in a contract; *Fogelsville & T. Electric Co. v. Pennsylvania Power & Light Co.* 271 Pa. 237, 240, 241, P.U.R.1921E, 767, 114 Atl. 822, bill to restrain defendant from constructing pole line, etc.; *Bethlehem v. Allentown* (1922) 275 Pa. 110, 118 Atl. 643, bill to restrain defendant from supplying water within plaintiff's corporate limits; *Rochester Bldg. & Loan Asso. v. Beaver Valley Water Co.* (1917) 68 Pa. Super. Ct. 122, bill to compel renewal of water service; *Wright v. Lancaster Sub-*

urban Water Co. (1933) 109 Pa. Super. Ct. 372, 167 Atl. 397, bill to enjoin defendant's use of plaintiff's water main. See, also, *Beaver Valley Water Co. v. Public Service Commission* (1918) 70 Pa. Super. Ct. 621, complaint as to reasonableness of water company's rule requiring arrearages of former owner to be paid by successor in title; *Tyrone Gas & Water Co. v. Public Service Commission* (1921) 77 Pa. Super. Ct. 292, complaint seeking order compelling water company to furnish water.

The cause of action, "that which creates the necessity for bringing the action" (*Skelton v. Lower Merion Twp.* [1930] 298 Pa. 471, 148 Atl. 846), concerns a matter which has been committed by government to the jurisdiction of the Public Service Commission. That body is the tribunal now invested with power and authority to consider and determine the justness and reasonableness of defendant's rules, regulations, and practices, and to apply, and enforce the application of its rules and regulations in such a manner as not to work injustice to its patrons, including the plaintiff, nor on the other hand, encourage tampering with defendant's meters or equipment by allowing the tamperer to get off without paying for current consumed by him, or by paying for it only the scheduled rates charged for the regular and usual registered, supply of electricity. The Commission is best fitted and equipped to pass on the reasonableness of the company's rules and regulations and the fairness of its practices in applying them, and, having determined these matters, to enforce them reasonably and uniformly. It is far better

PENNSYLVANIA SUPERIOR COURT

qualified to do so than is a succession of different juries in a series of different and unrelated actions at law.

Certain it is, under the decisions above cited, that if the plaintiff, instead of paying the charge demanded by defendant had filed a bill in equity to compel the defendant company to resume its service, the bill would have been dismissed (*Rochester Bldg. & Loan Asso. v. Beaver Valley Water Co. supra*), because jurisdiction over the subject matter has been committed to the Public Service Commission (*Beaver Valley Water Co. v. Public Service Commission, supra*; *Tyrone Gas & Water Co. v. Public Service Commission, supra*). The plaintiff will not be permitted to defeat and set

aside the primary power and authority of the Commission to determine the reasonableness of the defendant company's regulations and the fairness and justness of its practices in applying them, by an action at law any more than by a suit in equity.

The assignment of error is sustained. The order is reversed. The rule granted is made absolute, and it is adjudged and decreed that the lower court does not, at this time, have jurisdiction of the cause of action for which suit was brought; without prejudice to plaintiff's right to proceed by complaint to the Public Service Commission.

Baldrige and Stadtfeld, JJ., absent.

WISCONSIN PUBLIC SERVICE COMMISSION

Re Viola Light & Power Company

[2-U-967.]

Corporations, § 9 — Dissolution — Necessity of Commission consent.

The consent of the Public Service Commission to a dissolution of a corporation which, by reason of a lawful transfer of its property, is no longer owning or operating a public utility is not necessary, although formal consent to the dissolution may be given.

[March 30, 1936.]

APPPLICATION by a corporation for authority to dissolve; granted.

By the COMMISSION: This is an application of the Viola Light and Power Company under § 181.03, Statutes, for consent to have said corporation dissolved.

It appears from the records of the Commission that the applicant prior

to December 30, 1935, was the owner of an electric utility plant serving the village of Viola and adjacent territory with electricity; that on the last-mentioned date the Public Service Commission of Wisconsin gave its consent to the acquisition by the Wis-

RE VIOLA LIGHT & POWER CO.

consin Central Utilities Company of the plant and distribution system and other utility property of said Viola Light and Power Company; that said utility property was thereafter acquired by the Wisconsin Central Utilities Company, and that since said time the latter company has been and is still serving the village of Viola and adjacent territory with electric service; that the sale of the utility property and the acquisition thereof by the Wisconsin Central Utilities Company was in all respects in accordance with law, and that after

such sale the Viola Light and Power Company was no longer a corporation "owning or operating a public utility" within the meaning of § 181.03, Statutes.

Under the facts in this case, the consent of the Public Service Commission to a dissolution of the Viola Light and Power Company is not necessary. Nevertheless, the Public Service Commission does hereby give its formal consent to the dissolution of the Viola Light and Power Company.

WISCONSIN PUBLIC SERVICE COMMISSION

Re Manawa Telephone Company

[2-U-910.]

Return, § 111 — Telephone company.

1. A telephone company having in force temporarily reduced rates was permitted to restore regular rates when this would allow the company to earn approximately 6 per cent on the rate-making value of its property, but a proposed additional monthly increase in the net rate to cover losses from discontinuance of toll charges was disapproved where the resulting earnings would be approximately 8 per cent and therefore deemed excessive, p. 357.

Rates, § 584 — Telephones — Interexchange calls.

2. A telephone company proposing to discontinue charging a toll rate on calls to neighboring exchanges was not permitted to add 10 cents a month to its regular charges to compensate for loss in toll revenue, but was permitted to adopt a plan for allowing any subscriber having occasion to call any of the adjacent exchanges during a toll billing monthly period to make 5 calls for the price of the initial call at the established toll rate for the class of service furnished, the sixth and subsequent calls to be charged for at established toll rates, p. 357.

[March 30, 1936.]

APPPLICATION for authority to readjust telephone rate schedules; rate schedule revised.

By the COMMISSION: The petition in this matter was filed by the Mana-

wa Telephone Company on October 4, 1935, alleging that the present level

WISCONSIN PUBLIC SERVICE COMMISSION

of rates for service does not afford sufficient revenue to maintain its property adequately.

At the present time this utility is operating under a temporary schedule of rates which was ordered by the Commission under date of June 30, 1932, docket 2-U-132.

The monthly regular rates, the temporary rates ordered in docket 2-U-132 and the rates proposed in this application are as follows: [Schedules omitted.]

In connection with the proposed schedule of rates the utility proposes to discontinue charging a toll rate on calls to the neighboring exchanges of Bear Creek, Marion, Ogdensburg, and Weyauwega and to also discontinue the charging of a 5-cent switching charge on calls to certain switched subscribers.

A public hearing relative to the application was held at Manawa on November 20, 1935, at which time the following appearances were entered: Manawa Telephone Company, by L. M. Lamkins, Secretary.

It appears from the testimony submitted that the proposed schedule of rates which the utility desires authority to adopt contemplates the reestablishment of the regular monthly net rates together with an additional 10 cents per month which is ostensibly for the purpose of compensating the utility for loss in toll revenue due to contemplated establishment of unlimited interexchange service to contiguous exchanges. A canvass to determine the sentiment of customers regarding the proposed additional charge of 10 cents per month indicated that approximately 68 per cent were in favor of the proposed rates,

19 per cent were opposed, 8 per cent were noncommittal, and the remaining 5 per cent were not canvassed. Other evidence submitted consisted of a balance sheet and income account for the first eight months of 1935.

It appears necessary that the Commission first determine if the applicant would earn an excessive return upon the rate-making value of its property if the regular rates of the company were reestablished. The reasonableness of the proposed unlimited interexchange service plan and its effect upon the net revenues of the company can then be considered.

As the record fails to disclose any testimony regarding the rate-making value of this property and a normal level of revenues and expenses, the Commission in making its findings has used the annual reports of the company.

Fixed Capital

As of December 31, 1935, the average book value of property and plant was \$25,041 against which the company has accumulated a depreciation reserve of \$14,993, leaving a net value of \$10,048. As no other evidence of value has been presented, we are of the opinion that with reasonable allowances for working capital the depreciated net book value should be used as a rate base.

The Commission therefore finds and determines that the present reasonable value of the property of the Manawa Telephone Company for rate-making purposes, including working capital, is not more than \$10,700.

Revenues and Expenses

Set forth below is a statement of

RE MANAWA TELEPHONE CO.

the company's revenues and expenses for the year ending December 31, 1935, which reflects the last full year's operations under the present temporary rate reduction. [Table omitted.]

Our investigation in this case indicates that the normal expenses of this company are in excess of those experienced for the year ending December 31, 1935. In view of this fact it appears that in fixing telephone rates for the future certain adjustments in expenses should be made in order to determine future normal operating results.

[1] Taking into consideration such estimates and adjustments, the Commission finds that under normal operating conditions the restoration of the regular service rates of the company would allow the company to earn approximately 6 per cent on the rate-making value of its property. From the foregoing facts it appears that the reestablishment of the regular rates of the company is justified. After consideration of the evidence, files, and records in this proceeding,

Manawa to Marion	25.3%	54.0%	79.3%	20.7%
Manawa to Bear Creek	25.3	50.9	76.2	23.8
Manawa to Weyauwega	25.3	38.0	63.3	36.7
Manawa to Ogdensburg	25.3	35.8	61.1	38.9

the Commission finds and determines that the exchange rates charged at present by the applicant are inadequate in that they do not provide sufficient revenue to meet operating expenses and leave a fair return upon the rate-making value of the property and that the rates set forth in the following order are reasonable.

Unlimited Interexchange Service

As previously stated, the application in this proceeding requests authority to establish unlimited interexchange service to contiguous exchanges and to increase the net rates of all subscribers 10 cents per month which it is estimated would compensate the company for the resulting loss in toll revenue due to establishment of such unlimited interexchange service.

The Commission requested the company to prepare and submit considerable data bearing upon the use of the service and the revenue accruing thereto. These data indicated that the proposed additional monthly increase in the net rate would exceed the loss in toll revenue resulting from discontinuance of the toll rate and would allow the company to earn approximately 8 per cent on the rate-making value of its property which under present conditions is excessive.

[2] Tabulated below is a summary of use made of service to the various exchanges involved during a recent six-months' period:

	Per cent of subscribers who did not use service to any of the following exchanges	Per cent subscribers who had no calls to the particular exchange but who had calls to one or more of the remaining 3 exchanges	Per cent of subscribers who made no calls	Per cent of subscribers who made calls
Manawa to Marion	25.3%	54.0%	79.3%	20.7%
Manawa to Bear Creek	25.3	50.9	76.2	23.8
Manawa to Weyauwega	25.3	38.0	63.3	36.7
Manawa to Ogdensburg	25.3	35.8	61.1	38.9

The above data show that during the six months' period studied approximately three fourths of the subscribers made some use of the service to either one or all of the listed exchanges. However, data showing the number of calls by each subscriber appear to indicate that the calling rate per subscriber is exceedingly low. It

WISCONSIN PUBLIC SERVICE COMMISSION

therefore appears reasonable to conclude that the present toll rates to the various exchanges are not an unreasonable burden upon subscribers unless a large proportion of the subscribers are deterred from making additional calls because of the toll rates now in force and effect.

However, from the facts before us concerning the business and social relationships of those subscribers who are situated directly adjacent to the territory served by the various contiguous exchanges, we are of the opinion that a modified form of the company's proposed plan might be attempted for a limited period for the purpose of determining if the low calling rate is due to the toll rates charged and also to determine if an actual need exists for unlimited interexchange service. We are of the opinion that the following plan of furnishing a limited number of interexchange calls would not result in any serious revenue losses to the company and would at the same time furnish some indication of the effect of the present toll rates on the use of the service.

The proposed plan contemplates that any subscriber having occasion to call any of the four adjacent exchanges during a toll billing monthly period would be permitted five calls for the price of the initial call at the established toll rate for the class of service furnished. In other words, the subscriber would be charged for the first call and would then be granted the privilege of making four additional calls to any of the four exchanges without further charge. The sixth and subsequent calls would be charged for at established toll rates.

14 P.U.R. (N.S.)

It appears to us that this plan would accomplish practically the same purpose as the plan proposed by the company, the difference being that where under the company-plan the subscriber would be required to pay an increased monthly rate of 10 cents and would then be entitled to make an unlimited number of calls, this proposed plan contemplates a limited number of calls. This plan appears to be more advantageous when consideration is given to the fact that those subscribers who have no occasion to use the service to the adjacent exchanges would not be required to pay the proposed increased rates. In addition, those subscribers who use the service infrequently during stated monthly periods would not be required to pay the proposed increase rate during the time that they do not use the service and would at the same time have the privilege of using a limited number of calls at approximately the proposed increase in rates during a monthly period when they have actual need for the service.

The plan being somewhat out of the ordinary routine of conducting the telephone business does present some administrative difficulties, which, however, do not appear unsurmountable. In view of the billing methods employed by this as well as practically all other telephone companies wherein bills issued on or about the first of the month contain rental charges in advance and toll charges on calls placed between the 21st and 20th of the preceding months inclusive, it appears necessary to provide that the monthly period during which the four additional calls may be used should

RE MANAWA TELEPHONE CO.

necessarily coincide with the monthly toll billing period. In other words, beginning with the first toll billing date subsequent to the date of this order which will be April 21, 1936, the period during which the plan will be operative will be from April 21st to May 20th inclusive, and each like subsequent monthly period for one year. We believe subscribers should be furnished a written statement outlining the above arrangement and should also be advised that the four subsequent calls after the initial call will not be cumulative from period to period. We are of the opinion that this arrangement should be approved for a limited period of one year. At the end of this experimental period the company shall report the results to the Commission, showing the effect upon use of the service.

After consideration of the evidence, files, and records in this proceeding, the Commission finds and determines that the toll rates set forth in the following order are reasonable.

It is therefore *ordered* that the Manawa Telephone Company shall discontinue its present temporary schedule of exchange rates and substitute therefor the following schedule

to be applicable on and after April 1, 1936.

	Rate per Month ¹	
	Gross	Net
Business, one-party	\$2.40	\$2.25
Business, two-party	2.15	2.00
Residence, one-party	1.90	1.75
Residence, two-party	1.65	1.50
Residence, four-party	1.40	1.25
Rural, multi-party	1.65	1.50
Switched stations50

¹ Residence and rural desk set equipment
15¢ per month additional.

It is *further ordered* that the Manawa Telephone Company shall file and place in effect, for a period of one year beginning April 21, 1936, the proposed plan for furnishing interexchange service as described in the above opinion.

It is *further ordered* that the Manawa Telephone Company file with the Commission no later than ten days after the date of this order reasonable regulations under which interexchange service will be furnished.

It is *further ordered* that all existing rates, rules, and practices, except as modified above, shall remain in effect.

It is *further ordered* that jurisdiction is hereby retained in this matter to make such supplementary findings and orders as may appear necessary and reasonable.

WISCONSIN PUBLIC SERVICE COMMISSION

Re City of Oconomowoc

[2-U-897.]

Rates, § 362 — Electric — Street lighting.

1. A flat rate per kilowatt hour is not well adapted to electric street lighting service because the city can, by reducing the number of lamps or shortening the hours of burning, require only a nominal consumption which would not

WISCONSIN PUBLIC SERVICE COMMISSION

offer the utility enough revenue to cover the fixed charges on its investment, p. 360.

Rates, § 362 — Electric — Street lighting.

2. A 3-part rate was approved for street lighting consisting of (1) an investment charge, (2) a lamp renewal charge, and (3) an energy charge, p. 360.

[June 23, 1936.]

I *INVESTIGATION of street lighting charges of a municipal utility; rates revised.*

By the COMMISSION: Under date of November 22, 1935, this Commission entered its original order in the above-entitled matter revising the residential and commercial rates of the Oconomowoc Municipal Electric Department. At the time of this order the utility was engaged in making an inventory of its rural lines and the street lighting system and it was decided to postpone a revision in the rates for these services until such time as this work was completed.

The revision in this utility's rural rate was accomplished informally by the filing of an optional rural rate which is now being applied to new customers and to those present customers who benefit thereby. In order to complete this investigation, therefore, the only consideration is an adjustment of the present rate for street lighting service. In the original order the Commission made a determination of a reasonable rate base and the excessive return which represented the amount available for rate reductions. Inasmuch as these computations were based on the utility's 1935 operations, they will be considered as reasonable determinations for the purposes of this order. The revision in the street lighting rate herein contemplated will reduce the utility's revenue some \$950 annually and will complete the adjustment—
14 P.U.R.(N.S.)

ment of the rates to permit the utility a reasonable return on the fair value of the property.

[1, 2] At the present time the city of Oconomowoc is billed 4 cents net per kilowatt hour for all energy used for street lighting. This rate presumably is meant to include all costs incidental to rendering the service, including the fixed charges on the utility's investment in the system. It is apparent that a flat rate per kilowatt hour is not well adapted to this type of service because the city could, by reducing the number of lamps or shortening the hours of burning, require only a nominal consumption which would not offer the utility enough revenue to cover the fixed charges on its investment. The Commission has concluded that the form of rate to be prescribed for street lighting service shall be a three-part rate consisting of (1) an investment charge, (2) a lamp renewal charge, and (3) an energy charge. The proposed rate follows:

Street Lighting Service

Investment Charge:

(Includes maintenance, taxes, depreciation, insurance, and interest on the utility's investment devoted to street lighting service)—\$3,800 per year payable in twelve equal monthly instalments of \$316.66 each. When the utility is required by the city to make additions to the present system, this investment charge shall be increased by 15% of the additional investment required.

RE CITY OF OCONOMOWOC

Renewal Charge:.....
 250 C.P. lamps on all night schedule, \$4.00
 per lamp per year; 33¢ per lamp per month.
 400 C.P. lamps on all night schedule, \$4.50
 per lamp per year; 38¢ per lamp per month.
 400 C.P. lamps on midnight schedule, \$2.75
 per lamp per year; 23¢ per lamp per month.

Energy Charge:.....
 First 5,000 kw. hr. per month (60,000 per
 year) 2.0¢ net per kw. hr.
 Next 5,000 kw. hr. per month (60,000 per
 year) 1.5¢ net per kw. hr.
 Over 10,000 kw. hr. per month (120,000 per
 year) 1.0¢ net per kw. hr.

vailing conditions in the case of Oconomowoc are similar, the Commission finds and determines that the use of these percentages in this case is reasonable. To this allocation there should be added the utility's investment in special street lighting equipment. For the purposes of establishing a rate in this case we find that the following investment is reasonable:

	Investment per 1935 Report	Percentages to Street Lighting	Street Lighting Investment
Poles, towers, and fixtures	\$23,329	21.48%	\$5,011
Overhead conductors and devices	28,021	15.49	4,341
Special street lighting investment	15,954	100.00	15,954
Total investment in street lighting system			\$25,306

In checking the inventory prepared by the utility the Commission engineers noted a number of discrepancies and errors in pricing. Rather than make a detailed inventory the Commission decided to use the method employed by its engineers in determining street lighting investment for the various communities served by one of the large utility systems in the state. In an overhead system the same poles carry the street lighting circuits as carry the general distribution circuits so that in order to arrive at a proper street lighting investment it is necessary to allocate thereto certain percentages of the fixed capital in poles and overhead conductors. For communities comparable in size to Oconomowoc the Commission found that 21.48 per cent of poles, towers, and fixtures, and 15.49 per cent of overhead conductors and devices were properly allocable to the street lighting service. Inasmuch as the pre-

Application of 15 per cent to the above figure results in an investment charge of \$3,800 annually for the present installation. The proposed rate provides that additional investment required by the city shall be added to the base investment to which the annual 15 per cent charge is applied.

The purpose of the lamp renewal charge in the proposed rate is to reimburse the utility for the cost of periodic lamp replacement. In establishing these charges the Commission has given due consideration to the prices of lamps quoted by the manufacturers, the average burning life, and the expense incident to cleaning and washing the lamps and patrolling the system.

During 1935 Oconomowoc purchased most of its energy requirement from the Milwaukee Electric Railway and Light Company at an average rate of 1.25 cents per kilowatt hour. During each month of the year, however, the utility was purchasing

WISCONSIN PUBLIC SERVICE COMMISSION

energy in the 7 and 8 mill blocks of the wholesale rate. Inasmuch as street lighting service involves a relatively long-hour use, and a considerable share of the total kilowatt hours consumed is taken at a time when the utility's load requirements are at a minimum, we believe that this service is entitled to a relatively low rate for energy. The price per kilowatt hour provided for in the proposed rate is,

however, sufficiently high to cover the demand costs reasonably allocable to the service.

In view of the foregoing the Commission finds and determines that for the purposes of this order the present rate for street lighting service as applied by the Oconomowoc Electric Department is unreasonable and that the rate herein prescribed is reasonable.

OKLAHOMA SUPREME COURT

Western Telephone Corporation v. Corporation Commission of Oklahoma

[No. 25339.]

(— Okla. —, 56 P. (2d) 899.)

Valuation, § 332 — Going value — Separate allowance.

1. In determining the rate base for the purpose of making rates to be charged by a public utility, where the Corporation Commission has made proper allowances for the various items which constitute going concern value, it is not error to refuse a request to include in addition thereto 10 per cent of the total value of the properties as a separate item for going concern value, p. 364.

Rates, § 1 — Theories and methods.

2. In making rates, the Corporation Commission is not limited to any particular theory or method, but should take into consideration all the proper elements pertinent to the particular case, p. 365.

Rates, § 82 — Powers of Commission — Necessity of complaint.

3. The power of the Corporation Commission to prescribe rates is not limited to complaints filed, but is inherent in the authority delegated to the Commission, p. 367.

Return, § 112 — Depreciation allowance — Telephone company.

4. Record examined, and held, that allowances of 5 per cent on depreciable property for depreciation and amortization and a return of 7 per cent annually on the rate base are adequate and fair, p. 367.

[March 3, 1936. Rehearing denied April 21, 1936.]

Headnotes by the Court.

APEAL from Commission order reducing telephone rates;
order sustained.

APPEARANCES: E. S. Ratliff, of Oklahoma City, for plaintiff in error; Holmes Baldridge, of Oklahoma City, for defendant in error.

OSBORN, Vice Chief Justice: This is an appeal by the Western Telephone Corporation, hereinafter referred to as the company, from an order of the Corporation Commission reducing telephone rates for the city of Kingfisher and vicinity.

On June 19, 1931, the city of Kingfisher filed with the Commission a petition asking that the company be required to install a modern telephone system at its Kingfisher exchange. At that time the telephone system was of the type commonly known as a magneto telephone system. The system which the city sought to have installed was a common battery or central energy telephone system. A hearing was had on the application and the company agreed to install the modern common battery system, but it developed that on account of general economic conditions the company was not able to procure the necessary funds to install the new system. Thereafter, and on September 9, 1932, the city, having failed to secure the desired improvement, filed a petition with the Commission in which it sought an adjustment of rates. Several hearings were had on this petition, and on December 4, 1933, the Commission made its finding of fact and entered an order reducing the rates in the following particulars:

289 one-party residence telephones reduced 25¢ per month, or \$3.00 per year	\$867.00
103 two-party residence telephones reduced 25¢ per month, or \$3.00 per year	309.00
400 multi-rural stations reduced 8.33¢ per month, or \$1.00 per year	400.00
Total distributed excess	\$1,576.00

In fixing a rate for the services rendered to the citizens of Kingfisher and vicinity, the Commission found and fixed the rate base or fair present value of the telephone properties owned and operated at the Kingfisher exchange; ascertained the revenue and operating expense for a 12-month period ending September 30, 1932, as a base for estimating future revenue and expense; allowed 5 per cent annually on depreciable property for depreciation and amortization, and determined that the company was entitled to earn a return of 7 per cent annually on the rate base. It was found that on the basis of the income and operating expense for the twelve-month period used, the company was earning at the rate of 15.07 per cent on the rate base, which was excessive; that the reduction of rates above set forth on the 289 one-party stations, 103 two-party stations, and 400 multi-rural stations served by the Kingfisher exchange would accomplish such a reduction in rates as would allow a return of approximately 7 per cent per annum on the rate base.

It is urged first that the Commission erred in the determination of the rate base or present value of the properties. It appears that an appraisal of

OKLAHOMA SUPREME COURT

said properties was made at the direction of the Commission by its telephone engineer, Mr. B. Richardson, who testified that according to his appraisal the reproduction cost new of the physical properties depreciated was \$40,556. One Endsley Jones testified for the company that he examined the properties and estimated that the reproduction cost new depreciated or present fair value of the physical properties was the sum of \$58,200,78. The difference in the estimate of the two experts is accounted for by the fact that the witness Richardson found the physical properties to be in 74 per cent condition, while the company's witness Jones found the properties to be in 80 per cent condition, and the witness Richardson appraised the real estate, land, and buildings at the sum of \$6,000, whereas the company's witness Jones allowed \$18,000 for lands and buildings. There is disclosed considerable difference of opinion in respect to the value of the building. The building was constructed about 1893 and was used for many years by one of the local banks. It is a two-story brick structure. In 1925 the bank sold the building to one Charles B. Ford, who at that time owned the Kingfisher telephone exchange, for a cash consideration of approximately \$8,500. The record shows that in addition to the testimony of the expert witnesses above referred to various other witnesses were called and testified as to the value of the building and the Commission eventually placed a valuation thereon of \$8,500. It developed that during the year 1932 some new construction was added to the building and an allowance of \$3,000 was made for this item. We set out the various items used and considered by the Commission in fixing the rate base as follows:

lowance of \$3,000 was made for this item. We set out the various items used and considered by the Commission in fixing the rate base as follows:

Physical properties, including the overheads of engineering and superintendence, omissions and contingencies, interest during construction, materials and supplies, etc. (Ex. No. 6)	\$40,556.00
Cash working capital	300.00
Ledgers, forms and accounting supplies	100.00
Cost of securing franchise permits, subscribers' contracts, etc.	1,000.00
Addition to include full value of building	2,500.00
New construction	3,000.00
Rate Base	\$47,456.00
or	47,500.00

It is observed that the Commission did not adopt the testimony of either of the principal expert witnesses in the case but increased to some degree the estimates of value placed upon the properties by its own engineer. We have carefully considered the argument of the company as to its conception of the value of the properties, and, in view of all the evidence presented, we are of the opinion that the finding of the Commission is amply sustained by the evidence.

[1] In the appraisal submitted by the company there was included an item of "cost of attaching business \$7,236.99." This item is sometimes referred to as "going concern value." In place of allowing this item as a part of the value of the physical properties to be considered in fixing the rate base, the Commission adopted an item contained in the report of the witness Richardson as "cost of securing franchise permits, subscribers' contracts, etc., \$1,000." It is urged

WESTERN TELEPH. CORP. v. CORP. COMMISSION OF OKLAHOMA

that the Commission erred in refusing to consider "going concern value" in fixing the valuation of the properties. In the case of Carey v. Corporation Commission (1934) 168 Okla. 487, 5 P.U.R.(N.S.) 148, 154, 33 P. (2d) 788, 793, it is said: "The company contends that it is entitled to an allowance of 10 per cent of the reproduction cost new less depreciation in value of the plant for going concern value. It cites authorities by which it hopes to establish that going concern value is a necessary element in this formula. This is not true whatever the cases formerly may have held. It is generally recognized now that the reproduction cost new less depreciation, or book value, less depreciation, or historical cost, less depreciation, plus interest during construction, plus organization and legal expense, plus an allowance for materials, supplies, working capital, and taxes, make a hypothetical company having an existence, and being more than a mere barebones organization, and that in the estimates and allowance so made, what is generally termed as 'going concern value' is adequately covered. Pioneer Teleph. & Teleg. Co. v. State (1917) 64 Okla. 304, P.U.R.1918A, 465, 167 Pac. 995, L.R.A.1918C, 138; Mullendore Gas Co. v. Stillwater (1926) 120 Okla. 140, P.U.R.1927C, 49, 250 Pac. 895; and Los Angeles Gas & E. Corp. v. California R. Commission, 289 U. S. 287, 77 L. ed. 1180, P.U.R.1933C, 229, 53 S. Ct. 637."

It is shown that in estimating the expense of operation and other necessary allowances, the Commission took into consideration the following items:

Entitled to Earn:	
For return (7% on \$47,500.00) ..	\$3,325.00
For Depreciation (5% on \$44,853.00)	2,242.65
Maintenance expense	2,043.15
Traffic expense	5,680.30
Commercial expense	2,784.75
General and Miscellaneous expense	1,916.70
Uncollectibles	107.31
Dues, donations & contributions	106.90*
Additional labor costs N. I. R. A.	600.00
Taxes	1,966.95
<hr/>	
Total Annual Requirement ..	\$20,559.91
Gross revenue (12 Mo. period ended Sept. 30, 1932)	22,153.27
<hr/>	
Excess	1,593.36
* Red	

In view of the nature of the business involved herein and the probable expense of attaching business, and in view of the fact that the company enjoys a virtual monopoly, we are of the opinion that the various elements which have been considered by courts as a part of the "going concern value" have been duly considered and allowed by the Commission and that in addition to the allowances so made the company is not entitled to a further allowance of 10 per cent of the total gross value of the properties based upon its own conception of said gross value.

[2] Complaint is made of the method used by the Commission in estimating the net revenue of the company. In this connection it appears that the Commission used as a basis of its calculations a certain exhibit showing the total revenue received for a 12-month period ending September 30, 1932. Certain deductions were allowed and the sum of \$7,161 was fixed as estimated revenue. The company insists that the Commission should have taken into consideration the further facts that subsequent to the date of September 30, 1932, the

14 P.U.R.(N.S.)

OKLAHOMA SUPREME COURT

company lost a total of 45 telephone stations in the city of Kingfisher, earning an annual revenue per station of \$32.03, and sustained an additional loss of \$1,400 per annum on toll commissions, and that these items should have been deducted from the estimate of income in determining the annual revenue of the company. In this connection it has been held that "the legislative discretion implied in the rate-making power necessarily extends to the entire legislative process, embracing the method used in reaching the legislative determination as well as that determination itself." *Los Angeles Gas & E. Corp. v. California R. Commission*, *supra*, at p. 240 of P.U.R.1933C. Although these items were not allowed as deductions by the Commission, they were duly considered. We quote from the findings of the Commission:

"Exhibit No. A-3, introduced by the company on November 16, 1933, also showed a loss of ten stations since the previous hearing, with proportionate loss in revenue. However, Exhibit No. A-3 showed a greater increase in toll revenues. It also appeared that the company station loss had been definitely checked.

"It would therefore seem that a reasonable net earning in this case would be that shown by the books of the company for the 12-month period ending September 30, 1932, namely, the sum of \$7,761, less the sum of \$600, the additional expense incurred by virtue of compliance with the NRA code, or the sum of \$7,161. We think this is a minimum amount which the company may reasonably expect to earn under present rates and under present conditions. The 12-month

period ending September 30, 1932, which, as adjusted as set out above, is used as a basis for computing operating revenues and expenses, represents the lowest net revenue in the history of the company when revenues are compared to investment. All indications at the present time point to an increase in net earnings in the future, because of increased stations and increased toll commissions. In basing earnings for the future upon earnings secured by the company during the lowest 12-month period in its history the Commission affords the company the benefit of all doubt."

The finding to the effect that the year ending September 30, 1932, represented the lowest net revenue in the history of the company when compared to investment, is not challenged. It has been held that "in determining whether a rate is confiscatory the court is not confined to evidence as to the income of the corporation affected for the fiscal year during, or preceding that in which the rate was fixed." *Knoxville v. Knoxville Water Co.* (1909) 212 U. S. 1, 2, 53 L. ed. 371, 29 S. Ct. 148. It appears that the factors considered by the Commission in forecasting possible future revenue produced a result which is fair and just. It would be manifestly unfair and unjust to take into consideration added losses without giving consideration to possible gains from other sources which would have the effect of offsetting such losses. By virtue of the economic conditions generally prevailing, which we may judicially notice (*Atchison, T. & S. F. R. Co. v. United States* [1932] 284 U. S. 248, 76 L. ed. 273, 52 S. Ct. 146) we are impressed that the estimate of rev-

WESTERN TELEPH. CORP. v. CORP. COMMISSION OF OKLAHOMA

enue made by the Commission is just and reasonable, and the position of the company is not supported by sound logic and reasoning.

[3] It is urged that the Commission erred in that part of the order which ordered a reduction from \$5 per year to \$4 per year on the multi-rural stations for the reason that no complaint was made in respect to such charges and no evidence was introduced or heard with respect to the reasonableness of such charges.

By § 18, Art. 9 of the Constitution, and § 3618, O. S. 1931, the Corporation Commission is given power and authority and is charged with the duty of supervising, regulating, and controlling transmission companies, and is specifically authorized to prescribe and fix rates and charges. It has been held that the power of the Commission to prescribe rates is not limited to complaints filed, but is inherent in the authority delegated to the Commission. *Muskogee Gas & E. Co. v. State*, 81 Okla. 176, P.U.R.1920C, 806, 186 Pac. 730; *Bartlesville v. Corporation Commission*, 82 Okla. 160, P.U.R.1921E, 509, 199 Pac. 396; *Oklahoma Gas & E. Co. v. State Corp. Commission* (1921) 83 Okla. 281, P.U.R.1922A, 336, 201 Pac. 505.

[4] After the evidence was intro-

duced in this case, the Commission found that the earnings were excessive. The Commission endeavored to fix the rates so as equitably to distribute the excess. The reduction was therefore ordered on residence telephones and the multi-rural stations and no reduction was ordered on business telephones or extensions. We are impressed that the order of the Commission is just and equitable in so far as the subscribers are concerned; that the jurisdiction of the Commission was sufficiently invoked, and that the order so entered was within the constitutional and statutory authority of the Commission.

We have reviewed the argument and authorities relating to the annual allowance of 5 per cent on depreciable property new for depreciation and amortization, and the allowance of 7 per cent annually on the rate base for net rate of return and are of the opinion that said allowances are reasonable and adequate and sufficiently provide for a fair, just, reasonable, and adequate return upon the investment involved herein.

The order of the Commission is sustained.

McNeill, C. J., and Busby, Phelps, and Corn, JJ., concur.

NEW JERSEY BOARD OF PUBLIC UTILITY COMMISSIONERS

Yvette Gutentag

v.

Jersey Central Power & Light Company

Payment, \$ 12 — Liability — Combined reading — Landlord.

The owner of two houses occupied by tenants is not excused from payment

NEW JERSEY BOARD OF PUBLIC UTILITY COMMISSIONERS

of the proper bill for service to such houses because during a delay in the installation of an additional meter the landlord has been unable to collect from tenants their estimated portion of the total bill for service, where installation of the additional meter required an extension of the distribution system involving installation of another pole and the landlord did not sign the pole consent until three days before its being set.

[July 21, 1936.]

COMPLAINT *against charge by electric utility; complaint dismissed.*

APPEARANCES: Yvette Gutentag, *pro se*; Joseph F. Autenrieth for the respondent.

By the BOARD: This complaint involves the responsibility of the petitioner for a bill for electric service.

This matter was set down for hearing on June 2, 1936. The testimony indicates that service was contracted for by the petitioner and used in two houses, which at times were occupied by tenants. There is no apparent dispute with respect to the amount of the bill. Mrs. Gutentag testified on cross-examination as follows:

Q. The company claims that you are indebted to them now for the sum of \$14.91; is that correct?

A. Yes, sir.

Q. And you have not paid it?

A. I haven't paid it, no, sir.

It is the petitioner's contention that in May, 1935, she applied to the company for installation of another meter so that the current consumed in each of the houses could be separately me-

tered. It is further submitted by the petitioner that the company delayed the installation of the additional meter for approximately six months and that she was damaged to the extent that she was unable to collect from her tenants their estimated portion of the total bill for electric service.

It was testified on behalf of the respondent that the installation of the additional meter required an extension of the distribution system, which involved the installation of another pole in front of the petitioner's property. It was further testified that the petitioner did not sign the pole consent for the desired installation until the 12th of November, 1935, and that the company set the pole on November 15, 1935.

A review of the record indicates there was no undue delay in making the desired installation after the pole consent was obtained, and since the petitioner does not dispute the amount of the bill the complaint is hereby dismissed.

L. B. Herr, Jr.

v.

Lancaster Suburban Water Company

[Complaint Docket Nos. 8530, 8876.]

Rates, § 647 — Necessity of complaint — New schedules.

1. A complaint filed against a rate schedule prior to its effective date applies with equal force to subsequent rate schedules which are higher than those in the schedule complained of, and it is unnecessary for specific complaints to have been filed against the later schedule in order that they may be affected by the rate investigation, p. 372.

Return, § 115 — Water utility.

2. A return allowance of 7 per cent was made in determining the adequacy of water rates for a period prior to April 2, 1934, at which time the Commission by resolution fixed 6 per cent as a reasonable rate of return, p. 374.

Depreciation, § 82 — Water utility.

3. A depreciation rate of .74 per cent of the depreciated cost of water utility property was used in determining the reasonableness of rates, p. 374.

Valuation, § 344 — Going cost — Lag in development — Lines without customers.

4. Water lines which are without consumers for a period of time do not represent lag in development of business but improvident construction; and, likewise, if a considerable length of main is laid to supply but one or two consumers, they, or the real estate developer, should have been made to bear the burden until the line became self-sustaining rather than imposing upon future consumers an everlasting burden by reason of so-called additional increment of value, p. 377.

Valuation, § 332 — Going concern value — Separate allowance.

5. No separate and distinct allowance should be made for going concern value, upon the assumption that property is in use and rendering service to the public, when property is valued by the use of reproduction cost new less depreciation, p. 378.

Valuation, § 114 — Cost of financing — Absence of expenditure.

6. Consideration should be given to the fact that the record is silent upon any cost of financing having been actually incurred when the Commission is fixing fair value, although a 2 per cent allowance for cost of financing may be included in the reproduction cost estimate used in determining value, p. 378.

Valuation, § 238 — Property not owned — Mains and pipes.

7. A line of pipe not owned by a water utility company should not be

PENNSYLVANIA PUBLIC SERVICE COMMISSION

included in its rate base, even though it uses the line and pays for line maintenance, p. 379.

Valuation, § 213 — Unused water main — Construction before paving.

8. Water mains not used for serving customers, but constructed in advance of concrete paving in order to save the cost of paving cut and replacement, are properly excludable from a water utility's rate base, p. 379.

Valuation, § 289 — Working capital — Definition.

9. Working capital is that sum which would be required for a public utility to meet its current requirements for operation and maintenance until such time as charges to its patrons for service are paid into its treasury, and such sum is not to be confused with the usual accounting definition of working capital; that is, the excess of current assets over current liabilities, p. 381.

Evidence, § 9 — Judicial notice — Prices — Labor cost.

10. The Commission takes judicial notice of the trend in costs indicated by cast iron pipe quotations in the *Engineering News-Record*, and it likewise takes judicial notice of a decline in labor rates in the territory involved in a rate investigation, p. 381.

Expenses, § 23 — Capital charges — Maintenance account.

11. An expenditure by a water utility company for reconstruction of a creek crossing is a capital charge and is not properly chargeable to maintenance, p. 383.

Valuation, § 211 — Overbuilt property — Water mains — Few customers.

12. Some 2,400 feet of 6-inch water main used to serve but four consumers should not be included in the fair value of a water utility's property for rate making, since it is improvident to use such a length of main of that size to serve only four consumers and the other consumers should not be burdened with providing a return on this portion of plant, p. 385.

Expenses, § 91 — Rate case expenditures — Finding of excessive rates.

13. A finding that rates under attack before the Commission produce excessive revenue bars the inclusion of any allowance for amortization of rate proceeding expense, p. 386.

Discrimination, § 187 — Water — Fire protection charges.

14. Unjust discrimination is likely to result from charging for public fire protection service by billing the charge equally among benefited water consumers, since all properties lying within the benefited area may not be connected with the utility's water distribution system, and even if they are and the charge is divided equally, there is an element of unjust discrimination against the small home compared with the large home; but if all properties in the area benefited are consumers, it would seem that a more equitable basis might be to charge each property in accordance with its assessed valuation, p. 387.

Payment, § 33 — Service denial to enforce.

15. A rule providing for discontinuance of water service if bills remain unpaid for forty-five days was sustained, p. 388.

[July 1, 1936.]

COMPLAINTS against water rates and investigation on motion by Commission; complaints sustained in part.

HERR v. LANCASTER SUBURBAN WATER CO.

By the COMMISSION: The complainant, at Complaint Docket No. 8530, alleges that the rates contained in respondent's Tariff P. S. C. Pa. No. 2, effective November 1, 1930, are unjust and excessive; that the meter rates for consumption are unjust and excessive; that the minimum meter charges, based on size of meter, are unreasonable and discriminatory; that the rule on page 4, subdivision D of said tariff, regarding discontinuance of service, is unjust; and that, while there is no complaint with respect to public and private fire protection, the charge and method of collection therefor is unreasonable because respondent pays only 25 cents per thousand gallons for water purchased from the city of Lancaster. At Complaint Docket No. 8876, complainant alleges that all the rates in respondent's Tariff P. S. C. Pa. No. 3, effective May 9, 1931, are excessive, unjust, and unreasonable. Both complaints were filed prior to the effective dates of the respective tariffs.

In the answers to each complaint, respondent makes general denials of all the allegations and, on the contrary, avers that the rates embodied in both tariffs are fair, just, and reasonable.

The Lancaster Suburban Water Company, respondent, was incorporated September 24, 1896, under the name of West End Water Company, for the purpose of supplying water to the public in the township of Lancaster, Lancaster county, which adjoins the city of Lancaster, and territory adjacent thereto. The change to the present name was made on October 19, 1929. The Manor Township Water Company was incorporated October 4, 1929, for the purpose of fur-

nishing water to the public in a certain portion of Manor township, Lancaster county, which area adjoins on the west the area served by respondent in Lancaster township. The Manor Township Water Company is a wholly owned subsidiary of respondent and all of the balance sheet, income, and expense accounts of both companies are consolidated as one.

The complainant is an individual engaged in the stationery and printing business in Lancaster and is one of the patrons of respondent, at his residence in Lancaster township.

Respondent has never developed its own source of water, but purchases it from others. Water is furnished to the public in the residential area adjoining Lancaster on the west and lying contiguous to the transcontinental highway, known as Lincoln highway. The supply main and distribution system comprise approximately 10 miles of pipes varying in diameter from 1½ inch to 8 inches, and about 200 feet of 10-inch pipe. Service is now furnished to 477 consumers, all of whom are metered, and to 49 public fire hydrants owned by respondent.

Hearing was held in Complaint Docket No. 8530 on December 17, 1930, and in Complaint Docket Nos. 8530 and 8876, on September 18, 1935. A brief was filed by respondent on November 15, 1935, while complainant waived the filing of a brief, and oral argument was likewise waived.

While these matters were pending before the Commission, respondent filed its Tariff No. 3, which became effective May 9, 1931, against which a complaint was filed at Complaint Docket No. 8876, prior to the effec-

PENNSYLVANIA PUBLIC SERVICE COMMISSION

tive date. Subsequently, respondent filed its Tariff No. 4, effective September 1, 1932, and its Tariff No. 5, effective March 1, 1933, and a Supplement No. 1 thereto, effective September 2, 1933. The initial hearing was held on December 17, 1930, and thereafter the case was continued from time to time until, in 1934, it appeared that complainant would not actively proceed with the case. Thereupon, the Commission, on its own motion, acted to prosecute the case, and the technical bureaus of the Commission made investigations, both from an accounting and an engineering point of view. The results of these two investigations, embodied in reports, were offered in evidence at the hearing on September 18, 1935.

Schedules Nos. 1 and 2, embodying costs of water purchased for resale as shown by respondent's books, were made a part of the record by stipulation of June 10, 1936.

As hereinbefore stated, all of the water furnished by respondent to its patrons is purchased from others. At November 1, 1930, the effective date of Tariff No. 2, water was being purchased by respondent from the city of Lancaster at a consumption rate of 25 cents per thousand gallons, regardless of quantity, plus readiness-to-serve charges for the 10-inch and 6-inch meters, through which the supply was measured. On May 1, 1931, the city of Lancaster increased the consumption charge to 60 cents per thousand gallons, in anticipation of which respondent filed its Tariff No. 3, effective May 9, 1931, materially increasing the charges contained in Tariff No. 2. By reason of the very high cost of water from the city of Lan-

caster, respondent thereupon sought another source. On May 2, 1932, after having laid an 8-inch supply main some 14,000 feet in length, respondent was able to secure water from the Belmont lake supply of A. B. Hess at a purchase price of 30 cents per thousand gallons. Standby emergency connections have been maintained with the Lancaster system. From May 2, 1932, to the present time, virtually all of the water used by respondent has been purchased from A. B. Hess. On September 1, 1932, respondent's Tariff No. 4 became effective, somewhat reducing the rates in Tariff No. 3, and on March 1, 1933, Tariff No. 5 became effective, still further reducing the rates. A comparative table of the rates embodied in the four tariffs follows: [Schedule omitted.]

[1] The complaint at Complaint Docket No. 8530 was filed against the rates embodied in Tariff No. 2, and that at Complaint Docket No. 8876 was filed against the rates contained in Tariff No. 3. No formal complaints were filed against the rates in Tariff No. 4, or Tariff No. 5 and Supplement No. 1 thereto. However, the rates embodied in these two tariffs, while lower than those in Tariff No. 3, are higher than those in Tariff No. 2. It was therefore unnecessary for specific complaints to have been filed against these two tariffs and the supplement, as the complaint against Tariff No. 2 also applied with equal force to these tariffs. See *Coplay Cement Mfg. Co. v. Public Service Commission*, 271 Pa. 58, P.U.R. 1921E, 597, 114 Atl. 649, 16 A.L.R. 1214. The rates in all four tariffs are, therefore, affected by these proceedings.

HERR v. LANCASTER SUBURBAN WATER CO.

Tariff P. S. C. Pa. No. 2. (Nov. 1, 1930, to May 8, 1931.)

Respondent's Tariff No. 2 became effective November 1, 1930, and continued in force until May 8, 1931, a period slightly longer than six months. Respondent offered in evidence Exhibit No. 3, which sets forth the actual revenues under Tariff No. 1, and expenses for the year ended August 31, 1930, and used this as a basis of forecasting revenues under Tariff No. 2, and of estimating allowable operating expenses, contained in Respondent's Exhibit No. 4. The detailed amounts in these two exhibits are set forth in the following tabulation: [Table omitted.]

In view of the fact that respondent purchases all of its water from others, the quantity purchased becomes a distinct function of the quantity sold to its patrons.

The actual revenue for the year ended August 31, 1930, based on respondent's Tariff P. S. C. Pa. No. 1, was \$13,818. To the actual consumption of each of the 460 consumers for that year, respondent applied the rates in its Tariff No. 2, resulting in a metered revenue of \$18,812. Respondent makes allowances for discount and penalties, and adds the revenue for public fire protection of \$2,250, resulting in an estimated annual revenue under Tariff No. 2 of \$20,298. Such estimate of revenue appears reasonable, and is accepted by us.

The operating expenses, exclusive of depreciation, for the year ended August 31, 1930, were \$15,011, of which \$12,865 was the cost of water purchased. Respondent's estimate of expenses, exclusive of depreciation is

\$16,672, of which \$12,900 represents cost of water purchased. The actual cost of water purchased, \$12,865, should be used, since the estimate of revenue is based upon the quantity of water represented by such cost. Reference to the above tabulation discloses that the forecast of expenses includes allowances for clerk, president, and secretary-treasurer, totaling \$1,380, while no such expenses were charged during the year ended August 31, 1930. Respondent company is one of a number operated from a central office in Philadelphia, and it appears that up to January 1, 1931, the services of a clerk and of the president and secretary-treasurer were rendered without making any charge therefor. The clerk is the bookkeeper of respondent, and prepares and sends all bills, while the president and secretary-treasurer are the administrative heads of the company. The allowances claimed by respondent for these three items do not appear unreasonable.

It appears that the full salary of the local superintendent was increased on January 1, 1931, from \$110 to \$135 per month, and that it was the custom for respondent to pay 75 per cent of this salary as representative of the time devoted to the business of respondent, the balance of the time being devoted to an affiliated interest and paid for by such interest. Viewing this and all other claims of respondent in its forecast of operating expenses, we conclude them to be reasonable with the exception of the item for water purchased, which should be no more than the amount of \$12,865 experienced in the year ended August 31, 1930. The net income of \$3,626

PENNSYLVANIA PUBLIC SERVICE COMMISSION

in the above tabulation is, therefore, increased by \$35 to \$3,661.

[2, 3] Respondent's Exhibit No. 2 is an inventory and valuation of its property, based on plant and prices as of November 1, 1930. Annual and accrued depreciation are determined by the 4 per cent sinking-fund method, using the actual ages of the several parts of the property and estimates of useful life. To the construction costs, which include 5 per cent for omissions and contingencies, there are added 5 per cent for engineering, $1\frac{1}{2}$ per cent for organization and promotion, $1\frac{1}{2}$ per cent for administration and legal, $1\frac{1}{2}$ per cent for interest during construction and 2 per cent for cost of obtaining money, as well as 8 per cent for going cost. The reproduction cost, including all construction overheads and cost of obtaining money, but excluding going cost, totals \$75,412, upon which the accrued depreciation is \$6,458, and the annuity to retire the depreciable property over its remaining life is \$507, which is 0.74 per cent of the depreciated cost of \$68,954. Allowing 7 per cent¹ as a fair rate of return, the total allowance for return and annual depreciation is 7.74 per cent.

Referring now to the net income available for return and depreciation, above determined, of \$3,661, and using the rate of 7.74 per cent, it would appear that the net income from Tariff P. S. C. Pa. No. 2 is readily supported if the fair value of respondent's property is as low as \$47,300. The depreciated reproduc-

¹ We use the 7 per cent rate for return since the period under consideration expired prior to April 2, 1934, the date of our resolution fixing 6 per cent as a reasonable rate of return.

tion cost, above noted, of \$68,954, sufficiently supports the net income of \$3,661 as to render it unnecessary for us to determine the fair value of respondent's property as of 1930, even though consideration were given to a deduction of \$6,930 representing items included in the inventory and alleged to be not owned or not used by respondent, as noted in Complainant's Exhibit No. 1. It is, therefore, our conclusion that the rates embodied in respondent's Tariff P. S. C. Pa. No. 2, which were in effect from November 1, 1930, to May 8, 1931, are not unjust or excessive.

(First Period)

Tariff P. S. C. Pa. No. 3. (May 9, 1931, to May 1, 1932.)

Up to May 1, 1931, the consumption charge paid by respondent for water purchased from the city of Lancaster was 25 cents per thousand gallons. On that date the city increased this rate to 60 cents. In anticipation of such increase, respondent filed its Tariff No. 3, which became effective May 9, 1931, and remained in effect until August 31, 1932, a period of fifteen and three-quarters months.

The record (Complainant's Exhibit No. 2) shows the revenue under this tariff, which for the fifteen and three-quarter months' period totals \$41,479, divided between the amounts in the years 1931 and 1932, as follows:

	1931 May 9, to Dec. 31	1932 Jan. 1, to Aug. 31
Revenue under Tariff No. 3		
Metered sales	\$21,203	\$18,491
Public fire hydrants	1,417	1,837
Discounts and penalties (Net discount)	747	722
Totals	\$21,873	\$19,606

HERR v. LANCASTER SUBURBAN WATER CO.

On May 1, 1932, respondent discontinued the purchase of water from the city of Lancaster at 60 cents per thousand gallons, and thereafter purchased virtually all of its water from the Belmont lake supply of A. B. Hess at 30 cents per thousand gallons, maintaining emergency standby connections, however, with the city of Lancaster and from time to time taking an inconsequential amount of water from that source. To test the reasonableness of the rates in Tariff No. 3, we will first consider the period from May 9, 1931, to May 1, 1932. As shown in the above tabulation, the metered revenue for the seven and three-quarter months in 1931 was \$21,203, which, if extended to eight months on a pro rata basis, would equal about \$21,900. Considering the metered revenue of \$18,491 for the eight months in 1932, the pro rata portion for the first four months to May 1st would be \$9,246. Thus the total metered revenue on an annual basis would be \$31,146, to which should be added \$2,450 for the 49 public fire hydrants. With respect to discounts and penalties, the net discount of \$747 for the seven and three-quarter months in 1931 would amount to \$771 for eight months on a pro rata basis. Adding half of the net discount of \$722 for the first eight months of 1932, that is, \$361, the total net discount on an annual basis is \$1,132. Thus the revenue, under Tariff No. 3 to May 1, 1932, is at the annual rate of \$32,464.

To determine the cost of water purchased for the period May 9, 1931, to May 1, 1932, reference is made to Schedule No. 1 and Schedule No. 2, made a part of the record in these pro-

ceedings by stipulation on June 10, 1936. The first schedule sets forth, for the years 1931-1934, inclusive, the cost of water purchased for resale, as billed to respondent by the city of Lancaster and A. B. Hess. The schedule sets forth the exact period covered by the corresponding amount of each of the several bills noted, and, in a number of instances, these periods extend from one calendar year into the next. Schedule No. 2 sets forth the cost of water purchased in each calendar year, subdivided between certain parts of the year. The cost of water purchased for the period May 9, 1931, to May 1, 1932, should be extended to an annual basis, therefore we shall determine the cost from May 1, 1931, to May 1, 1932. The information in Schedule No. 2 is tabulated as follows: [Table omitted.]

Reference is now made to Schedule No. 1 to determine the cost of water purchased for the month of May, 1931, and the same month in 1932, after which, by appropriate combination with certain amounts in Schedule No. 2, we can determine the cost of water purchased from May 1, 1931, to May 1, 1932.

The several bills for periods covering part or all of the month of May in the years 1931 and 1932, and our allocation to the months of May, are as follows: [Table omitted.]

We have determined the cost of water for the months of May, 1931, and May, 1932, from these bills for the respective periods on the basis of the ratio of the number of days in May covered by the bill, to the whole number of days in the period. On this basis, the cost of water purchased for

PENNSYLVANIA PUBLIC SERVICE COMMISSION

May, 1931, is \$2,354, and for May, 1932, is \$1,166, as noted above.

Using the cost of water as determined for the months of May, 1931, and May, 1932, we find that the cost of water purchased from May 1, 1931, to May 1, 1932 was \$28,620, summarized as follows:

May, 1931	\$2,354
June 1 to December 1, 1931	19,177
January 1 to May 31, 1932	\$8,255
May, 1932	1,166
	<hr/> 7,089

Total—May 1, 1931, to May 1, 1932 \$28,620

Complainant's Exhibit No. 2, Schedule No. II, sets forth the operating expenses of respondent. For the year 1931, exclusive of the cost of water purchased and depreciation, all other operating expenses total \$3,777, to which we add \$27 and \$8, respectively, for adjustments in taxes and other general expense noted in Complainant's Exhibit No. 2, resulting in a total for the year of \$3,812. For the year 1932, after we exclude the cost of water purchased, depreciation, the sum of \$2,047 for other general expense, which includes rate case expense and charges to fixed capital, the sum of \$406 to spread the cost of \$507.50 of a pitometer survey, made in 1932, over a 5-year period, and the sum of \$710 to adjust taxes to a proper basis for that year, all other items of expense total \$4,901. On a pro rata basis, these remaining items of expense for the last eight months of 1931 would be \$2,542, and for the first four months of 1932 would be \$1,634, or a total for this twelve months' period of \$4,176. Adding this sum to the cost of water, above determined, of \$28,620, we arrive at an annual cost of operation for the

twelve months ended May 1, 1932, of \$32,796.

As hereinbefore determined, the annual revenue under Tariff No. 3, is \$32,464. This sum is insufficient to provide for the operating expenses, above determined, exclusive of depreciation, of \$32,796. Operations alone resulted in a deficit, and there was, therefore, no net income available for return and depreciation. It is therefore apparent that the rates in respondent's Tariff P. S. C. Pa. No. 3, for the period May 9, 1931, to May 1, 1932, are not unjust or excessive.

(Second Period)

Tariff P. S. C. Pa. No. 3. (May 2, 1932, to Aug. 31, 1932.)

We now consider the rates in Tariff No. 3 for the 4-month period from May to August, inclusive, in 1932, when water was being purchased from A. B. Hess at 30 cents per thousand gallons.

As shown in the tabulation above, the metered revenue under Tariff No. 3 for the first eight months of 1932 was \$18,491. On a pro rata basis, the metered revenue for four months would be \$9,246, to which must be added four months' revenue for the 49 public fire hydrants, or \$817. The discounts and penalties for the first eight months of 1932 amounted to a net discount of \$722, which, on a pro rata basis for four months, is \$361. The net operating revenue for the four months, May to August, 1932, under Tariff No. 3 is, therefore, \$9,702.

As hereinbefore determined, the cost of water purchased for May, 1932, is \$1,166, and, as shown in Schedule No. 2, for the period June

HERR v. LANCASTER SUBURBAN WATER CO.

1, to August 31, 1932, is \$3,994, so that the total for the period May to August, 1932, is \$5,160. As hereinbefore stated, all other operating expenses, except the cost of water and depreciation for the year 1932, total \$4,901, which, on a pro rata basis for the four months, May to August, would amount to \$1,634. Combining this with the cost of water purchased, we find the total operating expense, exclusive of depreciation, for the period May to August, 1932, to be \$6,794.

With operating revenue of \$9,702 and operating expense of \$6,794, the net income for the four months, May to August, 1932, available for return and depreciation is \$2,908. On an annual basis this is \$8,724, which, at the allowance of 7.74 per cent for return and depreciation, as hereinbefore determined, could be supported only if the fair value of respondent's property, as of that time, were \$112,700. This sum sufficiently exceeds the showing of depreciated reproduction cost as of November 1, 1930, of \$68,954 as to require further scrutiny.

Fair value, 1932.

Respondent's Exhibit No. 2 sets forth that the reproduction cost new of respondent's property, based on plant and prices of November 1, 1930, including all construction overheads, materials and supplies, and cost of obtaining money, but excluding going cost and cash working capital, is \$75,412, that the annuity over the whole expected life of the property is \$243, and that the accrued depreciation is \$6,458.

[4] With respect to the item of going cost, we have the testimony of re-

spondent's witness (T. 26) that its plant was built by piecemeal construction, that a length of pipe might serve but one or two houses, and that in many instances the company had to wait before the lines had any customers attached to them. Also, in a great many instances in the survey which he made in 1930, many of the homes looked comparatively new, which to him indicated that they had but recently become patrons of respondent. This statement with regard to piecemeal construction is but the statement that can be made of nearly every public service company because in growing communities, the present-day plants have necessarily been built up by extensions constructed from time to time to meet the increasing demands for service. The witness refers to lines which for some time had no customers attached to them. If this be literally true the lines were improvidently constructed.

In its brief, respondent contends that an indication of lag is to be inferred from Schedule No. II of Complainant's Exhibit No. 2. This schedule shows that in 1929 and 1930 deficits resulted from operation, but starting in 1931 the operations produced a net income. Respondent was incorporated in 1896, and there is nothing in this schedule to indicate to us a lag in the early development of respondent's business. The deficits in 1929 and 1930 can certainly be attributed to no other factor than that the rates were too low.

On the other hand, if respondent claims lag in its early years because certain of its lines were without consumers for a period of time, it appears to us that this represents not lag, but

PENNSYLVANIA PUBLIC SERVICE COMMISSION

improvident construction. Likewise, if a considerable length of main was laid to supply but one or two consumers, they, or the real estate developer, should have been made to bear the burden until such time as the line became self-sustaining, rather than imposing upon future consumers an everlasting burden by reason of this so-called additional increment of value.

[5] In using reproduction cost new less depreciation as a measure of value of respondent's property, we assume that property to be in use and rendering service to the public. Otherwise the value might be only the scrap value, which, in the case of respondent's distribution system would be considerably less than the material cost alone, since the cost of removal from the ground would be a very considerable item. It is true that the United States Supreme Court has held that: ". . . there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced. . . ." *Des Moines Gas Co. v. Des Moines*, 238 U. S. 153, 59 L. ed. 1244, P.U.R. 1915D, 577, 584, 35 S. Ct. 811. In *Dayton Power & Light Co. v. Ohio Pub. Utilities Commission* (1934) 292 U. S. 290, 309, 78 L. ed. 1267, 3 P.U.R.(N.S.) 279, 292, 54 S. Ct. 647, it was held that: "Going value is not something to be read into every balance sheet as a perfunctory addition." The court further held that: "We cannot in fairness say that after valuing the assets upon the basis of a plant in successful operation, there was left an element of going value to be added to the total." In the present instance, as above stated, we use reproduction cost new less depreciation as

a measure of value of respondent's property, and in so doing consider that respondent's property is a going concern. After so doing, we cannot add a separate and distinct allowance for going concern value. It is, therefore, our conclusion that the record in this proceeding fails to support the inclusion of anything for going concern value as a specific additional amount.

[6] Respondent, in its Exhibit No. 2, claims a cost of obtaining money of 2 per cent and this is apparently conceded in Complainant's Exhibit No. 1. There is nothing in the record to show that respondent ever experienced any actual cost of financing and, while it might be proper to include cost of financing in reproduction cost, it does not follow that it should be or must be included in fair value unless it can be conclusively shown that respondent actually incurred such cost. Unless actually incurred, the cost, of course, is hypothetical and, in *Galveston Electric Co. v. Galveston*, 258 U. S. 388, 397, 66 L. ed. 678, P.U.R.1922D, 159, 167, 42 S. Ct. 351, the United States Supreme Court held that: "We cannot say that the court erred in refusing to include in base value an allowance for hypothetical brokers' fees."

In *Erie v. Public Service Commission*, 96 Pa. Super. Ct. 42, P.U.R. 1929C, 568, 575, it was held that: "Cost of financing is, however, an element of value to be considered in a reproduction cost estimate." The witnesses for respondent and complainant are seemingly in agreement that 2 per cent for cost of financing should be included in a reproduction cost estimate and we therefore so find, but in fixing fair value we shall give consid-

HERR v. LANCASTER SUBURBAN WATER CO.

eration to the fact that the record is silent upon any cost of financing having been actually incurred.

In Complainant's Exhibit No. 1, four separate items of pipe, totaling 3,250 feet of 6-inch, and 368 feet of 2-inch, together with all appurtenances, are excluded from respondent's inventory on the basis that in June, 1934, these lines were not being used, that there were no buildings adjacent thereto, no consumers were attached, and that one item was not owned by respondent. Offsetting this is the testimony of respondent's witness that from August 17, 1934, to June 22, 1935, four new consumers were attached to these lines and, likewise, that some 2,400 feet of 6 inch mains in this group were constructed in 1929, immediately prior to, and because of, the paving of the streets with concrete. In its brief, respondent maintains that 350 feet of 6-inch pipe, excluded in Complainant's Exhibit No. 2 as being the property of one other than respondent, has not been shown conclusively by this record to be anything else but a facility of respondent and, therefore, properly includible.

[7] First, upon the question of the inclusion of 350 feet of 6-inch pipe in Atkins avenue, built in 1926, including one 6-inch valve, and one fire hydrant. This line is stated to be owned by L. V. Wright. This testimony is uncontradicted, and is in accord with the statement of facts in *Wright v. Lancaster Suburban Water Co.* (1933) 109 Pa. Super. Ct. 372, 167 Atl. 397. In *Wright v. Lancaster Suburban Water Co.* (1935) 13 Pa. P. S. C. —, 11 P.U.R.(N.S.) 409, the Commission, on January 29, 1935, dismissed a complaint with reference

to damages claimed by complainant by reason of a connection made by respondent to the south end of complainant's 6-inch water line in Atkins avenue. In that opinion it was held that the water line in question was constructed by L. V. Wright, and that there was nothing whatever to indicate that title to the line ever passed to the Lancaster Suburban Water Company. In its brief in the instant proceeding, respondent argues that this line is operated and maintained by respondent and that, upon the expiration of its useful life, respondent will be required to replace it. If title to this line had ever passed to respondent, even as a gift, we would, of course, be bound to include it as respondent's property. However, the mere use of this line, the property of another, to serve some of respondent's patrons, does not constitute ownership, even though respondent pays for the maintenance of the line. It is no more proper to include such a line as this than, for example, to include a service line between the main and curb built by the consumer, who retains title to it. Until such time as respondent secures title to this line, or replaces it with another line at the end of its useful life, we cannot include it as an element of fair value.

[8] The next two items excluded in Complainant's Exhibit No. 1 are 500 feet of 6-inch main, built in 1927 in Spencer and Spring Grove avenues, and 2,400 feet of 6-inch main constructed in 1929 in Perry, School Lane, President and Spencer avenues, together with seven 6-inch valves and eight public fire hydrants. The testimony is to the effect that these lines were not being used in June, 1934, and respondent's testimony indicates that

PENNSYLVANIA PUBLIC SERVICE COMMISSION

in the balance of 1934, and the first half of 1935, four consumers were attached to these lines. The lines were built in 1927 and 1929, in which latter year 2,400 feet of 6-inch mains were laid because the streets were to be, and were, immediately thereafter, paved with concrete. It, therefore, appears that these lines served no useful purpose from 1929 until 1934 and 1935, and even then but four consumers were attached to them. In respondent's brief it is contended that because the streets were paved with concrete in 1929, it was not improvident to lay the lines at that time, even though there was then no demand for service from them and further, that in so doing respondent saved the cost of paving cut and replacement. It is our opinion that this is no more a reason for constructing lines where no service is required of them because of an ultimate saving in cost of paving, than to say that at a time when cast iron pipe prices reach low levels, a public service company should forthwith lay a number of mains for which there is then no immediate demand, in anticipation of future savings in cost by reason of later increases in the cost of pipe. The lines in question were installed in 1929, and no use was made of them until 1934 and 1935, and we find that they are properly excludable from respondent's inventory and valuation. The same conclusion is reached with reference to the item of 368 feet of 2-inch pipe, together with all appurtenances, laid in 1929.

It is, therefore, our conclusion that as of 1930, all four items set forth in Complainant's Exhibit No. 1, page 2, are properly excludable from respondent's inventory and valuation, and we

14 P.U.R.(N.S.)

so find. The bare construction cost of these four items totals \$6,396, upon which the annuity is \$18, and the accrued depreciation, \$28. Adding 5 per cent for omissions and contingencies and then 12 per cent, which is the combined ratio of construction overheads and cost of obtaining money, to construction cost, including omissions and contingencies, as set forth in Respondent's Exhibit No. 2, the deductions for these excludable items amount to, reproduction cost new \$7,522, annuity \$21, and accrued depreciation \$33.

As of 1932, the period under immediate consideration, the 1930 property was two years older, and the additional accrued depreciation is \$978.

During the years 1931 and 1932, respondent added to fixed capital the sum of \$21,960. This cost is principally represented by the 8-inch main constructed in late 1931 and early 1932, required to secure water from the Belmont lake supply of A. B. Hess. If we consider that this sum, which is actual cost, be truly representative of reproduction cost as of 1932 (see *Clark's Ferry Bridge Co. v. Public Service Commission*, 108 Pa. Super. Ct. 49, P.U.R.1933D, 173, 165 Atl. 261; *Clark's Ferry Bridge Co. v. Pennsylvania Pub. Service Commission* [1934] 291 U. S. 227, 78 L. ed. 767, 2 P.U.R.(N.S.) 225, 54 S. Ct. 427), and add 12 per cent for overheads, as hereinbefore noted, we have a reproduction cost as of 1932 for property constructed in 1931 and 1932 of \$24,590, on which the annuity is \$80 and the accrued depreciation, \$80. The annuity of \$80 is determined in the same ratio as the annuity for the 1930 plant.

HERR v. LANCASTER SUBURBAN WATER CO.

[9] Working capital is not included in either Respondent's Exhibit No. 2 or Complainant's Exhibit No. 1. Upon this subject we have the testimony of the witness for respondent (T. 37) to the effect that \$7,000 is necessary. He states that this sum is required for meeting the quarterly bills for water purchased and for meeting current requirements of operation and maintenance. There is no other testimony with regard to this subject in the record.

Respondent bills its patrons at the end of each quarter for service rendered and, at the same time, is billed for all water purchased by it during that quarter. The bill for water purchased is due upon presentation, and the bills of respondent to its patrons bear a discount for payment within fifteen days. From the record of discounts, it would appear that respondent's bills are paid rather promptly. We define working capital as that sum which would be required for respondent to meet its current requirements

excess of current assets over current liabilities. Excluding cost of water purchased and depreciation, all other elements of expense are at the rate of \$4,901 per annum, above determined, and if respondent has in hand one third of this amount, namely \$1,634, this sum should be sufficient to meet its current demands. At the time, that is the end of the first three months, at which the bill for water purchased becomes due and payable, the company is currently receiving money from its patrons for service rendered by it, and with these funds would be enabled to make payment of such bill. In view of the fact that there is included in respondent's reproduction cost estimate the sum of \$1,096 for materials and supplies, and in view of the circumstances of billing patrons and paying for water purchased, we conclude that \$2,000 is an ample allowance for working capital.

All of the above determinations are summarized in the following tabulation:

	Reproduction Cost New	Annuity	Accrued Depreciation
Respondent's plant based on inventory and prices of Nov. 1, 1930 (exclusive of going cost and working capital)	\$75,412	\$243	\$6,458
Deductions for property not owned or not used	7,522	21	33
	<u>\$67,890</u>	<u>\$222</u>	<u>\$6,425</u>
Accrued depreciation, 1931-1932			978
Additions, 1931-1932	24,595	80	80
Working Capital	2,000
Total	<u>\$94,485</u>	<u>\$302</u>	<u>\$7,483</u>

for operation and maintenance until such time as charges to its patrons for service are paid into its treasury. Such sum is the measure of money required to be provided by the investor for this item—and is not to be confused with the usual accounting definition of working capital, that is, the

This sum of \$94,485 is the reproduction cost estimate of respondent's property at the end of 1932, of which about 75 per cent is based on November 1, 1930, prices and 25 per cent on actual 1931-1932 costs plus overheads.

[10] Respondent's reproduction

PENNSYLVANIA PUBLIC SERVICE COMMISSION

cost estimate as of November 1, 1930, is based on 40 cents per hour for common labor and a base price for cast iron pipe of \$36 a ton. In fixing the fair value of respondent's property as of 1932, we take judicial notice of the trend in costs indicated by cast iron pipe quotations in the *Engineering News-Record* (McGraw-Hill) which show that in November, 1930, the ton price of cast iron pipe f.o.b. New York was \$39.90, and that in 1932 the corresponding price ranged from \$35 at the beginning of the year to \$33.50 at the end of the year, reaching a low of \$27.50 in the months of July, August, and September, with an average for the year of \$31.80. Likewise, we take judicial notice of the fact that labor rates in the territory involved declined at least to 35 cents per hour in 1932.

The depreciated reproduction cost set forth in the above tabulation is \$87,002. Giving consideration to the decline in commodity and labor prices which occurred in 1932, but not reaching to the lowest level of that year, we find and determine that the fair value of respondent's property as of that time, was \$81,000, and that the annuity required to retire the depreciable property, over the remaining life, is \$550. Allowing 7 per cent return* on the fair value of respondent's property, that is \$5,670, and \$550 for annual depreciation, the total allowance for return and depreciation is \$6,220 per annum. For the four months of May to August, 1932, the sum allowable for return and depreciation is one third of this amount, or \$2,073.

As hereinbefore determined, the

* See footnote page 7 [page 374 here].
14 P.U.R. (N.S.)

revenue attributable to the period May to August, 1932, is \$9,702 and the corresponding operating expense, exclusive of depreciation, is \$6,794, leaving a net income of \$2,908, which contrasts with the allowable net income of \$2,073. We, therefore, find and determine that the rates contained in respondent's Tariff P. S. C. Pa. No. 3 were excessive for the four months' period May to August, 1932, for the conditions of operation as then obtained, to the extent of \$835, which is 8.6 per cent of the revenue of \$9,702. Reviewing the rates contained in respondent's Tariff No. 3, we find them of themselves to be not unjustly discriminatory between classes of consumers. We, therefore, find and determine that a tariff embodying rates 8.6 per cent less than those contained in respondent's Tariff P. S. C. Pa. No. 3 would have been just and reasonable for the period May 2, 1932, to August 31, 1932.

Tariff P. S. C. Pa. No. 4. (Sept. 1, 1932 to Feb. 28, 1933.)

Respondent's Tariff No. 4 was in effect from September 1, 1932, to February 28, 1933, a period of six months. The revenue under Tariff No. 4 for this period is shown in Complainant's Exhibit No. 2, segregated for the last four months of 1932 and the first two months of 1933, and is summarized as follows:

	Sept. 1, 1932 to Feb. 28, 1933
Revenue under Tariff No. 4	
Metered sales	\$11,596
Public fire protection	1,225
	<hr/> \$12,821
Discounts and penalties (Net discount)	404
Six months' operating revenue	\$12,417

HERR v. LANCASTER SUBURBAN WATER CO.

As set forth in Schedule No. 2, the cost of water purchased from September 1, 1932, to December 31, 1932, is \$3,673, and for January and February of 1933, is \$1,499, so that the total for the six months' period, September, 1932, to February, 1933, inclusive, is \$5,172.

As hereinbefore determined, excluding cost of water purchased and depreciation, all other elements of operating expense for the year 1932 total \$4,901, so that on a pro rata basis these elements for the last four months of the year would be \$1,634.

[11] The total operating expense for year 1933, as shown in Complainant's Exhibit No. 2, was \$20,054. If we deduct the cost of water of \$10,574, an item of \$277 for reconstruction of the Conestoga creek crossing, a capital charge and improperly charged to maintenance, an item of \$3,642 for depreciation, an item of \$216 so that the charge for legal services in that year can be apportioned to a 3-year period, and add an adjustment for Federal income tax of \$22, which applies to that year, there remains the sum of \$5,367 attributable to all other elements of operating expense. On a pro rata basis these elements of expense for the first two months of 1933 would amount to \$895, which added to the corresponding figure of \$1,634 for the last four months of 1932, produces a total of \$2,529 for the six months' period. Combining this with the cost of water purchased for the period of \$5,172, there results a total operating expense, exclusive of depreciation, of \$7,701.

Based upon operating revenue for the six months' period of September, 1932, to February, 1933, inclusive, of

\$12,417 and operating expenses of \$7,701, there is a net income of \$4,716 available for depreciation and return.

The fair value of respondent's property as of 1932 has been hereinbefore determined at \$81,000. Allowing a rate of return of 7 per cent³ upon this fair value and annual depreciation at \$550, respondent would be entitled to earn for return and depreciation, the sum of \$6,220 per annum, or, for the six months' period in question, the sum of \$3,110. This sum is to be contrasted with the net income, above determined, of \$4,716, indicating that the rates in Tariff P. S. C. Pa. No. 4 as a whole, produced an excessive return of \$1,606 for the six months' period. This excess revenue is 12.9 per cent of the six months' revenue of \$12,417. We, therefore, find and determine that the rates embodied in respondent's Tariff P. S. C. Pa. No. 4, effective from September 1, 1932, to February 28, 1933, are as a whole, excessive to the extent of 12.9 per cent. Our review of the rates embodied in respondent's Tariff No. 4 discloses them to be not of themselves unjustly discriminatory between classes of consumers. We, therefore, find and determine that at tariff embodying rates 12.9 per cent less than those contained in respondent's Tariff P. S. C. Pa. No. 4 would have been just and reasonable for the period September 1, 1932, to February 28, 1933.

Tariff P. S. C. Pa. No. 5. (March 1, 1933, to present.)

Respondent's Tariff No. 5 became effective March 1, 1933, and, with a

³ See footnote page 7 [page 374 here].

PENNSYLVANIA PUBLIC SERVICE COMMISSION

supplement effective September 2, 1933, regarding public fire protection rates, has remained in effect until the present. This tariff, while making no change in the minimum quarterly charges, reduces the consumption charges 10 cents per thousand gallons and provides for a discount of 10 per cent for bills paid within fifteen days, which contrasts with the former discount of 5 per cent.

Complainant's Exhibit No. 2 sets forth the revenue under this tariff starting with March 1, 1933, and segregating it for the periods of March to November, 1933, inclusive, for December, 1933, alone, and for the six months' period December, 1933, to May, 1934, inclusive. To determine the revenue for the twelve months of March, 1933, to February, 1934, inclusive, we have added together the several amounts shown for the nine months' period March to November, 1933, inclusive, for December, 1933, alone, and for the first two months of 1934, on a pro rata basis of the revenue for the first five months of 1934. Upon such basis the annual revenue is summarized as follows:

	March 1, 1933, to February 28, 1934
<i>Revenue under Tariff No. 5</i>	
Metered sales	\$22,289
Public fire protection	1,383
	<u>\$23,672</u>
Discounts and penalties (net discount)	1,529
Operating revenue	<u>\$22,143</u>

From Schedule No. 2, we determine the cost of water purchased from March 1, 1933, to February 28, 1934, to be \$11,169, that is, the sum of \$5,321, \$3,754, and \$2,094. The operating expenses are shown in Com-

plainant's Exhibit No. 2 for the calendar year of 1933 and for the first five months of 1934. Following generally the basis of allowing 10/12 of the 1933 expenses and 2/5 of the expenses for the first five months of 1934, and making adjustments heretofore indicated for the cost of the Conestoga creek crossing, for taxes and legal expenses, all other operating expenses, exclusive of depreciation and cost of water purchases, for the year of March, 1933, to February, 1934, inclusive, total \$5,356. The total operating expense for that period, exclusive of depreciation, totals \$16,525, summarized as follows: [Table omitted.]

The operating revenue for the year ended February 28, 1934, as above determined, was \$22,143, which, after providing for the operating expenses of \$16,525, leaves a net income of \$5,618 available for return and depreciation. Upon the basis of fair value determined by us of \$81,000, a return of 7 per cent ⁴ is \$5,670, and the annual depreciation is \$550, a total of \$6,220 per annum, it appears that the rates embodied in respondent's Tariff P. S. C. Pa. No. 5 were not excessive for the year ended February 28, 1934. Even on this showing, the rates are not excessive and more particularly, they could not be found excessive when one considers additions to fixed capital during 1933 of upwards of \$5,000, and the rise in commodity prices in 1933 over the levels reached in 1932. It is, therefore, unnecessary for us to determine the fair value of respondent's property upon which to base rates for the year ended February 28, 1934.

⁴ See footnote page 7 [page 374 here].

HERR v. LANCASTER SUBURBAN WATER CO.

On April 2, 1934, this Commission adopted a resolution to the effect that during the existing economic depression, a rate of return of 6 per cent is fair. It, therefore, becomes necessary for us to investigate respondent's rates in Tariff P. S. C. Pa. No. 5 upon this basis.

Respondent's Exhibit No. 8 sets forth the revenue and expenses for the year ended December 31, 1934. This exhibit was offered in evidence subject to comparison with the 1934 annual report of respondent to this Commission. Reference to the exhibit shows that the revenue totals \$21,580, while the revenue shown in respondent's 1934 annual report is but \$19,763. There is no explanation of the reason for the difference and, failing an explanation, we accept respondent's statement of \$21,580. The corresponding cost of water purchased, virtually all of which was from A. B. Hess, is \$11,449, which is 53 per cent of the annual revenue of \$21,580. Respondent's Exhibit No. 9 sets forth the revenue and expenses for the six months ended June 30, 1935. The operating revenue for this period is \$10,903, and the corresponding cost of water purchased, virtually all from A. B. Hess, was \$5,692, which is 52 per cent of the revenue. On an annual basis, the first six months of 1935 indicate a revenue of \$21,800, which is to be contrasted with the annual amount for 1934 of \$21,580. For purposes of testing the rates in Tariff P. S. C. Pa. No. 5, we adopt a forecast of annual revenue of \$21,800.

The operating expenses for the year 1934, exclusive of depreciation, total \$16,574, while for the first six months

of 1935, the total is \$8,214, which, on an annual basis, is \$16,428.

In Complainant's Exhibit No. 1, the witness for complainant contends that a proper allowance for operating expense, exclusive of depreciation, is \$15,800. The witness for the respondent contends that the company cannot be operated for anything less than the *actual* expense of upwards of \$16,500. Were we to adopt the claim of complainant's witness of \$15,800 there would remain a net income, from the revenue of \$21,800, above determined, of \$6,000.

Fair value, 1934.

[12] As hereinbefore stated, the witness, in Complainant's Exhibit No. 1, claims certain deductions from inventory and valuation for items not owned and not used. As found by us, these are valid claims which we have so considered and even now we so consider them as of July, 1934, in face of the testimony that, since August 17, 1934, four consumers have been attached to certain of the lines considered not used. Even though these consumers have been attached to the lines and are now being served through them, it is not proper to include in the fair value of respondent's property some 2,400 feet' of 6-inch main used to serve but four consumers. It is improvident to use such a length of main of this size to serve only four consumers, and the other consumers should not be burdened with providing a return on this portion of respondent's plant. We, therefore, conclude that these items are properly deductible, as of July, 1934.

Complainant's Exhibit No. 1 sets forth the reproduction cost, at July 1,

PENNSYLVANIA PUBLIC SERVICE COMMISSION

1934, prices, of all additions to respondent's property from November, 1930, to June, 1934, inclusive, of \$35,285.

This exhibit, likewise, sets forth that while the basis of the 1930 valuation is 40 cents per hour for common labor and \$36 per ton for cast iron pipe, no increase is made to such valuation as of July, 1934, by reason of an increase in the price of cast iron pipe to \$42, because some of the unit prices in the 1930 valuation "may be too high." Complainant's witness, therefore, adopts the 1930 valuation as though it were based on the prices prevailing at July, 1934, although he fails to point out in what respect the unit prices in the 1930 valuation are too high. On this basis, and allowing for the additions since 1930, and for working capital, we find that the reproduction cost estimate of respondent's used property as of July, 1934, may be summarized as follows: [Table omitted.]

From this tabulation it appears that the depreciated reproduction cost of respondent's used and useful property as of July, 1934, is \$96,404 and that the annual depreciation, to retire the depreciable property over its remaining service life, is \$696, which is 0.72 per cent of such depreciated cost.

If we apply to the net income of \$6,000, available for depreciation and return, hereinbefore determined, the rate of 6 per cent for return and 0.72 per cent for depreciation, a total of 6.72 per cent, it appears that if the fair value of respondent's property were \$89,300, the net income is readily supported.

The depreciated reproduction cost

of \$96,404, of respondent's property of July, 1934, above determined, sufficiently supports the net income of \$6,000 as to render it unnecessary for us to make an exact determination of the fair value of respondent's property, particularly when we consider that the fixed capital additions from July, 1934, to July, 1935, total \$960, and likewise consider the rise in commodity prices, which has occurred since July, 1934. It, therefore, appears that the rates embodied in respondent's Tariff P. S. C. Pa. No. 5 are not excessive, and are not producing an excessive revenue based upon the conditions of operation now obtaining.

Rate proceeding expense.

[13] Respondent's Exhibit No. 10, offered in evidence at the hearing on September 18, 1935, sets forth the expenses incurred by respondent incident to these proceedings before the Commission, totaling \$3,355.71, for the period from December, 1930, to September, 1935. Of this sum \$670 is for engineering, \$185.71 is for traveling and incidental expenses of respondent's officers and counsel, and \$2,500 is for the services of counsel.

The superior court, in Scranton-Spring Brook Water Service Co. v. Public Service Commission, 105 Pa. Super. Ct. 203, 227, P.U.R.1932C, 471, 486, 160 Atl. 230, said, in speaking of that company's rate case expense: "Whether such an allowance should be made or not will depend largely on the final outcome of the litigation. If the company's schedule of rates, as filed by it, is substantially sustained, allowance should be made for the *reasonable expense—not necessarily the actual outlay*—to which it

HERR v. LANCASTER SUBURBAN WATER CO.

was put in order to uphold it." (Italics ours.)

As hereinbefore determined, the rates in Tariffs P. S. C. Pa. Nos. 2 and 5 do not produce excessive revenues, nor does No. 3 for the period May 1, 1931, to May 1, 1932. Were we required to fix the annual revenue to which respondent would be entitled under these three tariffs, we would include a reasonable allowance for amortization of rate proceeding expense, in accordance with the opinion of the superior court in Scranton-Spring Brook Water Service Co. v. Public Service Commission, *supra*. However, since it is unnecessary for us to make such exact finding of allowable revenue, it is equally unnecessary to make a finding with respect to amortization of rate proceeding expense.

Likewise, since the rates under Tariff P. S. C. Pa. No. 3 for the period of May to August, 1932, and the rates in Tariff No. 4 for the period of September, 1932, to February, 1933, are found by us to have produced excessive revenues, such findings bar the inclusion of any allowance for amortization of rate proceeding expense.

Public fire protection.

[14] Respondent's Tariff No. 1, which was in effect until October 31, 1930, contained no charge for public fire protection service, even though respondent, or its predecessors in title, had installed public fire hydrants on its system, and public fire protection service was being rendered. It appears to have been the practice up to that time to prepare a bill based on an estimate of the quantity of water actually used

in extinguishing a fire and charge it against the benefited property owners.

This practice probably resulted from the fact that all water being used from respondent's system was purchased from the city of Lancaster, and the unusual use of water for fire purposes occasioned a corresponding increase in the cost of water purchased.

However, with Tariff No. 2, effective Nov. 1, 1930, respondent instituted a charge of \$50 per hydrant per annum and provided that, unless such charge were assumed by a municipality, it was to be divided equally among the benefited water consumers. At that time there were 45 public fire hydrants, and today there are 49 public fire hydrants.

Respondent's property is situated in Lancaster township, and it is provided by the laws of the commonwealth that persons desiring public fire protection service may petition township supervisors for such service and, if it is furnished by a public utility, special taxes may be levied by the supervisors upon the benefited properties. It appears that no such petition has ever been made to the township supervisors in this instance, so that, since the public fire protection charge of \$50 per hydrant per annum has never been assumed by the township or any other political subdivision, respondent has billed this charge equally among its benefited water consumers. Such a method of charging for public fire protection service is likely to result in unjust discrimination, since, for example, all properties lying within the benefited area may not be connected with the utility's water distribution system and even if they are, and the charge is divided equally, there is a

PENNSYLVANIA PUBLIC SERVICE COMMISSION

certain element of unjust discrimination against the small home compared with the large home, since each pays the same charge in dollars, but the larger home, by virtue of its increased value, received the greater benefit. If all properties within the area benefited by public fire protection service are consumers of the public utility, then it would seem that a more equitable basis might be to charge each property in accordance with its assessed valuation rather than, as in this instance, equally among all benefited properties. In the present instance, the township has not sought public fire protection service, while obviously in the event of fire in this area, use is made of the service, and the protection afforded by the service is ever present.

It appears that the revenue of \$50 per hydrant per annum was realized in full to and including 1932, but in 1933 payments for this charge declined materially, and in 1934 amounted to but \$662, and in the first six months of 1935 but \$328 was realized from this source. At the present time there are 49 public fire hydrants attached to respondent's system.

On September 2, 1933, Supplement No. 1 to Tariff No. 5 became effective. This supplement provides that a consumer may elect in writing not to take the fire protection service as provided for in the tariff itself, namely a pro rata share of the annual charge of \$50 per hydrant. In such a case, the supplement provides for a "Public Hydrant Use Rate." This rate is based on a consumption charge of 65 cents per thousand gallons up to the first 80,000 gallons and 50 cents per thousand gallons for all water in excess of

80,000 which is used in the extinguishment of and in protection against an individual fire, to be charged against the property or properties directly benefited by the use of such water. It is to be noted that consumers must elect in writing not to take the old pro rata rate, otherwise it is presumed they are taking service under such rate.

It is obviously true that if the service is being rendered, as it is, either the municipality should contract to pay the charges, or, failing this, the benefited properties should, of themselves, pay such charges for the service received.

It would appear to us that the properties which are now benefited by respondent's public fire protection service should forthwith petition the township supervisors for such service, agreeing to pay respondent's established rates for fire hydrants. This will permit the supervisors to levy taxes in accordance with the assessments of the several benefited properties, and the charges for the public fire protection service would then be equitably applied. Until such time as this occurs, there appears to be little else for respondent to do but to collect this charge individually from the benefited properties.

[15] We have reviewed the rule on page 4, Subdivision D of Tariff No. 2 providing for discontinuance of service if bills remain unpaid for forty-five days, and, if properly administered by respondent, we see nothing unjust in the rule itself.

We therefore find, as hereinbefore determined, that the rates embodied in Tariffs No. 2 and No. 5 are not ex-

HERR v. LANCASTER SUBURBAN WATER CO.

cessive and unjust, and the rates in Tariff No. 3 are not excessive for the period May 9, 1931, to May 1, 1932; and further find that the rates in Tariff No. 3 are excessive and unjust for the period May 2, 1932, to August 31, 1932, and that the rates in Tariff No. 4, effective from September 1, 1932, to February 28, 1933, are excessive and unjust; therefore,

Now, to wit, July 1, 1936: It is *ordered*: That the complaint with respect to rates embodied in respondent's Tariff P. S. C. Pa. No. 3, applicable to the period May 2, 1932, to

August 31, 1932, be and is hereby sustained.

It is *further ordered*: That the complaint with respect to the rates embodied in respondent's Tariff P. S. C. Pa. No. 4, applicable to the period September 1, 1932, to February 28, 1933, be and is hereby sustained.

It is *further ordered*: That the complaints with respect to the rates embodied in respondent's Tariffs P. S. C. Pa. Nos. 2, 3 and 5, applicable to the periods November 1, 1930, to May 1, 1932, and March 1, 1933, to the present, be and are hereby dismissed.

NEW JERSEY BOARD OF PUBLIC UTILITY COMMISSIONERS

John Huss Company, Incorporated

v.

Jersey Central Power & Light Company

Rates, § 342 — Electric — Auxiliary and standby service — Interpretation of schedule.

A tariff provision for auxiliary and standby electric service based on a monthly charge per kilovolt ampere of full rated capacity of the transformers or similar apparatus or connection used in supplying such service should not be interpreted as entitling the customer to service through a transformer installed to supply only his premises, with the standby charge determined by the rated capacity of the transformer for which the customer makes application, where through benefit of overload which the transformer would carry the customer would receive a greater quantity of service than that actually contracted for and used, since such situation would be manifestly discriminatory.

[July 21, 1936.]

COMPLAINT with respect to application of tariff provision relating to auxiliary and standby electric service; complaint dismissed.

NEW JERSEY BOARD OF PUBLIC UTILITY COMMISSIONERS

APPEARANCES: Milton Miller, for the complainant; Joseph F. Autenrieth, for the respondent.

By the BOARD: The above matter involves a complaint with respect to the application of the following provision of the filed schedule of rates for auxiliary and standby service:

Rider No. 1

Auxiliary and Standby Service

(a) Auxiliary Service:

The form of power or lighting service herein contracted for is reserve, auxiliary, or partial, and is intended to supply electrical energy for power or lighting purposes in conjunction with or simultaneously with the customer's private plant service. It is understood and agreed that the charge therefor each month shall be the equivalent of \$2 per month per kilovolt ampere of the full rated capacity of the transformers or similar apparatus or connection used in supplying said service; within and up to the amount of such charge, electrical energy may be consumed each month at the rate or rates set forth in any of the company's standard rate schedules available for the particular type or classification of service required by the customer, to which this rider is attached and made a part thereof.

(b) Standby Service:

The form of power or lighting service herein contracted for is intended to supply electrical energy in the event of a breakdown of the customer's private generating plant. It is understood and agreed that the charge therefor each month shall be the equivalent of \$2 per month per kilovolt

ampere of the full rated capacity of the transformers or similar apparatus or connection used in supplying said service; within and up to the amount of such charge, electrical energy may be consumed each month at the rate or rates set forth in any of the company's standard rate schedules available for the particular type or classification of service required by the customer, to which this rider is attached and made a part thereof.

This matter was set down for hearing on June 2, 1936. It appears from the testimony that the petitioner has a Diesel engine to supply his premises with electric service and purchases standby service from the respondent. It is the petitioner's contention that it is entitled to service through a transformer installed to supply only its premises and that the amount of the standby charge should be determined by the rated capacity of the transformer which the customer makes application for. The respondent on the other hand submits that it is the usual practice to service a group of customers through a single transformer and contends that it may properly install a demand limiting device to limit the amount of standby service to the demand which the particular customer has contracted for. John Huss testified, on behalf of the petitioner, that if an individual transformer is installed without a demand limiting device it would be able to receive the benefit of the overload which the transformer would carry without additional cost to it.

To sustain the petitioner's point of view would carry approval of the interpretation of a rate schedule which

JOHN HUSS CO., INC. v. JERSEY CENTRAL POWER & LIGHT CO.

would permit the customer to receive a greater quantity of service than that actually contracted for and used. Since such situation would be manifestly discriminatory, the complaint in this matter is hereby dismissed.

OKLAHOMA CORPORATION COMMISSION

Re Avant Gas Service Company

[Cause No. 16915, Order No. 10262.]

Rates, § 1 — Right to increase — Absence of franchise.

1. A public utility company which had no franchise at the time of its acquisition by the present owners and which has never attempted to obtain a franchise has no standing either in law or in equity that would permit it to file an application for an increase in rates, p. 393.

Rates, § 70 — Commission powers — Statutory restrictions — Minimum rate or service charge.

2. The Commission has no power to authorize a public utility to install a minimum rate, or what is known as a service charge, where the legislature by statute has prohibited the granting of a minimum rate or service charge, p. 394.

Service, § 485 — Petition for discontinuance — Withdrawal.

3. A petition for authority to discontinue gas service in the event that higher rates or a minimum rate or service charge is not allowed must be dismissed when the applicant, upon being denied a change in rate, protests against an order authorizing discontinuance, p. 395.

[May 26, 1936.]

APPPLICATION for rate increase and for authorization of minimum rate or service charge and petition in the alternative for authority to discontinue service; dismissed.

By the COMMISSION: This cause comes on for hearing before the Commission this 18th day of March, 1936, pursuant to assignment heretofore regularly made, on the application of the Avant Gas Service Company, a public utility of Avant, Oklahoma, for an adjustment of the rates charged by it for natural gas sold and distributed

for public use in the town of Avant, Oklahoma, and for an order authorizing the installation of a minimum rate, or service charge, per consumer, for service rendered. The applicant was present by W. J. McNally, its president, and E. S. Ratliff, its attorney. The Commission was represented by its counsel; the town of Avant

OKLAHOMA CORPORATION COMMISSION

was represented by A. E. Howell, its mayor, and other citizens who were represented in so far as this hearing is concerned by counsel for the Corporation Commission. And now the applicant, through its attorney, makes a statement of its claim and what it expects to prove together with its prayer for the relief it seeks. And now the cause proceeds for hearing, and all the witnesses are sworn, and Mr. E. A. Smith takes the stand and testifies, and is followed by other witnesses for the applicant, including W. J. McNally, its president. Whereupon, it appearing to the Commission that it was impossible to conclude the hearing on this day, it was ordered that the same be continued over until April 8, 1936.

And now on April 8, 1936, the hearing of said cause is resumed before the Commission with the same appearances as hereinbefore set out. The Commission now gives consideration to the matters and things involved herein, and is met at the threshold by an oral motion by counsel for the Commission and, the citizens of the town of Avant, to dismiss the application filed herein for the reason that under the law, the applicant has no right to invoke the jurisdiction of this Commission in the matter of asking for an increase in rates.

In order to give this matter due consideration, it will be necessary to set out herein excerpts from the application filed herein. Paragraph 2 of the application reads as follows: "Second. That it is the owner and holder of a franchise granted by vote of the citizens of the town of Avant authorizing it to occupy the streets, alleys,

and other public places in the town of Avant with its pipe lines and other facilities used in connection with the distribution and sale of natural gas for the public consumption.

"Third. That by the terms and provisions of said franchise, there was granted contractual obligations both for the benefit of this petitioner and the residents of the town of Avant, and that said franchise or contract between petitioner and the people of the state of Oklahoma and particularly the people of the town of Avant, and the rights therein accrued to petitioner and to the residents of the town of Avant are property rights; that by the terms, express or implied, of said contract, petitioner is permitted to charge for gas supplied such rates as will enable it to earn a fair return on its investment; and by the terms, express or implied, of said contract, the residents of the town of Avant, or any of them, are entitled to receive gas from petitioner on an equitable basis and at a reasonable rate, and to have such extensions of petitioner's mains made that they may be served; that when there is denied to this petitioner a rate or form of rate which will enable it to make a fair return upon its investment, its contractual rights are violated and its property confiscated; that when service and sale of petitioner's gas is denied to the residents, or any of them, of the town of Avant on an equitable basis and reasonable rate, then the contractual rights of those residents or any of them are violated and their property thereby confiscated; that petitioner has an investment in property devoted to the rendition of gas service in the town of Avant of not less than

RE AVANT GAS SERVICE CO.

\$10,000, of which the fair present value is not less than \$8,000."

[1] W. J. McNally, president of the company, testifying for the company, on direct examination, as found on page 32 of the record, said:

Q. Mr. McNally, does your company own a franchise at Avant?

A. No.

Q. Do you know how long it has been operating in Avant?

A. No, I do not know.

Q. Do you know whether they have ever had a franchise?

A. No.

The Commission, taking judicial notice of its own records, knows that as a matter of fact that applicant has no franchise, nor has it had one during several years last past, and especially for a long time prior to the time that Mr. McNally purchased the utility.

This brings us to the proposition—can this utility, or any other utility, that is required by the laws of the state of Oklahoma to procure a franchise before entering into the utility business in the state of Oklahoma, maintain an action such as the one under consideration, asking for an increase of rates, a service charge, or, as in this case where the evidence shows it would not be entitled to either, and then in lieu of being allowed an increase of rate, or service charge, ask for an order from this Commission authorizing it to discontinue the service of natural gas to the consumers in the town of Avant. This is a question of first impression in so far as this Commission is concerned.

Before a utility can serve the public in an incorporated town or city, it is

necessary to obtain a franchise for such purpose in accordance with the provisions of the Constitution and the statutes of the state. There is a slight deviation, or exception, to this general rule, in cases where the franchise of a public service company has expired, and the voters of a town or community have refused to renew the same. In such cases the law seems to be that the utility may continue to serve the consumers under the terms and provisions of the expired franchise, but it is not authorized, nor required, to make any further capital outlay or to make extensions to new customers for the reason that, not having a franchise, and its tenure being uncertain, it would not have any hope or expectation of ever recovering the investment made, nor, would it have any assurance of ever being permitted to earn a fair return upon such additional capital outlay, but that as long as the consumers continue to patronize the utility, and pay the bills presented for such service, and as long as the utility performs such service under the same terms as were imposed in the expired franchise, it may continue to occupy the streets, alleys, and other public places of the town or city on suffrage, but the city, on reasonable notice, can require a company to vacate the streets, alleys, and other public places and, on the other hand, the utility, on reasonable notice to the town or city government may, on its own motion vacate the streets, alleys, and other public places and terminate its service and move out. But this exception is not comparable to the case under consideration, for here, there was no franchise in existence at the time Mr. McNally purchased the utility company in Oc-

OKLAHOMA CORPORATION COMMISSION

tober, 1935, and so far as the record is concerned, he has never attempted to obtain a renewal of the franchise. Under the terms of the statute governing the subject of franchises, certain police powers are delegated by the state and the municipality to the utility to be used only in the proper manner, in rendering aid to the utility in performing and rendering a service for which it had obligated itself to perform. At the termination of the franchise, all contractual rights between the municipality and utility are terminated, except such as are expressly noted hereinbefore.

Section 5 of Art. 18 of the Constitution of Oklahoma reads as follows: "Section 5. (a) No municipal corporation shall ever grant, extend, or renew a franchise, without the approval of a majority of the qualified electors residing within its corporate limits, who shall vote thereon at a general or special election; and the legislative body of any such corporation may submit any such matter for approval or disapproval to such electors at any general municipal election, or call a special election for such purpose at any time upon thirty days' notice; and no franchise shall be granted, extended or renewed for a longer term than twenty-five years."

And there are other provisions in the statutes, which, when taken into consideration, prescribe the manner by which a public utility can qualify itself to serve customers in incorporated towns and cities. This manner, of course, is exclusive and there is none other, and it therefore seems plain that the only rights the applicant in this case has in the town of Avant are

those which flow from mere suffrage on the part of the state or the town, and by that, we mean that it has certain inchoate rights in so far as occupancy of streets, alleys, and other public places in said town are concerned, coupled with a precarious right of serving its present customers until such time as the town refuses to permit it to do so. The Commission is of the opinion, further, that under the facts and circumstances as described in the record, and in no way disputed, that the applicant has no standing either in law or in equity that would permit it to file an application for an increase in rates; that before it can do so it must obtain a franchise in the manner and form provided by the Constitution and laws of the state, thus recognizing the requirements of the Constitution and statutes and thus placing itself in the position whereby the jurisdiction of this Commission will attach, and also place itself in the position whereby it will be required to submit to such reasonable regulation as this Commission may direct. The Commission is therefore of the opinion that the applicant has not placed itself in a position to invoke the power and jurisdiction of the Commission in the matter of asking for an increase in rates.

[2] The Commission further finds that applicant, in addition to asking for an increase of rates, has asked for permission to install a minimum rate, or what is known as a service charge, upon each and all customers in the said town of Avant.

This prayer must be denied as a matter of course for the simple reason that this being a matter peculiarly

RE AVANT GAS SERVICE CO.

within the powers of the state legislature, and having to do with the policy of the state in the matter under discussion, and the legislature, having spoken and having by statute prohibited the granting of a minimum rate, or service charge, this Commission has no power to alter, repeal, modify, or change in any way or manner an express statute covering this subject as is now found on the statute books of Oklahoma. We give no further consideration to this phase of the case for the simple reason that the matter is one solely in the hands of the state legislature, and it having spoken thereon, this Commission is bound thereby.

[3] The Commission further finds that the applicant prayed for alternative relief, i.e., it asks for,

(1) An increase in the rate for gas supplied to the subscribers and customers in the town of Avant, and,

(2) It asked for a minimum rate or service charge, and,

(3) It prayed that in case neither be granted them, then, and in that event, an order be entered by the Commission permitting the applicant to discontinue gas service within the town of Avant, Oklahoma.

As to whether or not, under the peculiar facts and circumstances of this case the Commission has the power to grant such permission, it might be suggested that, as shown by the record, the attorney for the Corporation Commission, who also represented the mayor and other citizens of the town of Avant, confessed that portion of the prayer of the applicant, and asked the Commission, in open court, to enter an order permitting the company

to discontinue the service of gas to the consumers and subscribers of the town of Avant. When this was done, and before the Commission had an opportunity to rule thereon, the company protested vehemently against such an order, although that was what they prayed for in the petition. It is true that the petition asked for an increase of rates and for the installation of the minimum rate, or service charge, but as hereinabove set out, the Commission has already found that it is not within its power to authorize a minimum rate, or service charge, and the Commission has also determined that the rate as fixed by the present schedule of rates, which has been approved by the Commission is already so high that the consumers have in effect practically discontinued the use of gas, and to increase the rate now, under the circumstances, would result in depriving the company of any customers whatsoever in the town of Avant, to say nothing of the unreasonableness of the charge for such service as urged by the applicant. It is the opinion of the Commission that the applicant has thus assumed an inconsistent attitude before the Commission. Having prayed in the alternative for either an increase of rate or for permission to withdraw and abandon services in the town of Avant, and the Commission having decided that an increase of rates is not practicable nor reasonable under the circumstances of this case, yet the company, after the confession by the town of Avant of the third paragraph of the prayer, in which it sought permission to abandon service, and without amendment to its petition, now refuses to take what it had asked

OKLAHOMA CORPORATION COMMISSION

for in said prayer in said petition. While it is true that great latitude is permitted as a matter of custom in the form of pleadings before the Corporation Commission, yet there is a limit to the inconsistencies of the pleader. It will be remembered that in the petition the applicant alleged that it was the owner of a franchise in the town of Avant; that by virtue of the terms of the franchise certain contractual rights, duties, and obligations were created between the company on one hand and the consumers on the other. And yet the undisputed proof and records of this Commission show that during none of the time mentioned in this case did the applicant ever have a franchise, but on the contrary, it was operating in open defiance and in violation of the Constitution and statutes of the state, and now, and after that, they ask for permission to abandon the service, and when this was consented to by the town of Avant, through its counsel, it then rejected the idea in its entirety, and refused to accept an order of the Commission letting it aban-

don service in the town of Avant, and notwithstanding the foregoing facts, it still persisted in putting on evidence, mostly expert and opinion evidence going to the validity and reasonableness of an express statute still in force concerning a minimum rate and service charge. This leaves the Commission in a peculiar situation and nothing remains for it to do but to dismiss the petition of the applicant.

ORDER

It is therefore the order of the Commission, premises considered, that the application of the Avant Gas Service Company, a public utility, of Avant, Oklahoma, asking for an adjustment of rates charged by it for natural gas sold and distributed for public use in the town of Avant, Oklahoma, and for an order authorizing the installation of a minimum charge, or service charge per consumer, for service rendered, be, and the same is hereby dismissed.

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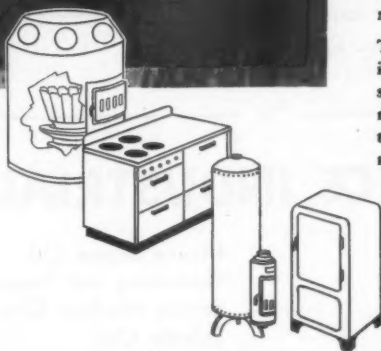


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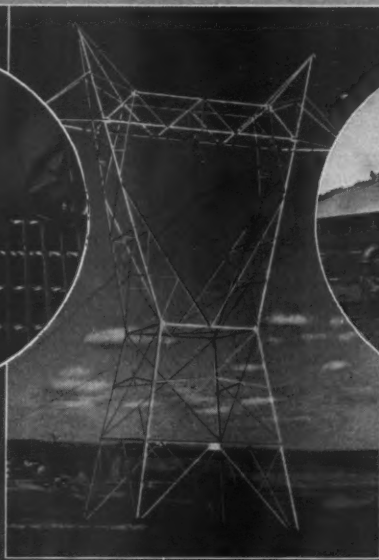
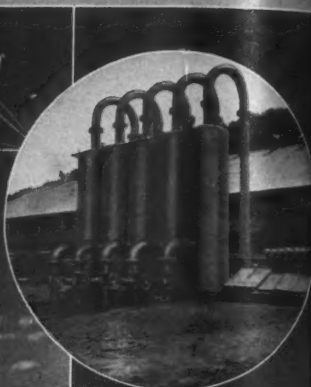


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No. 12

Sept. 10, 1936

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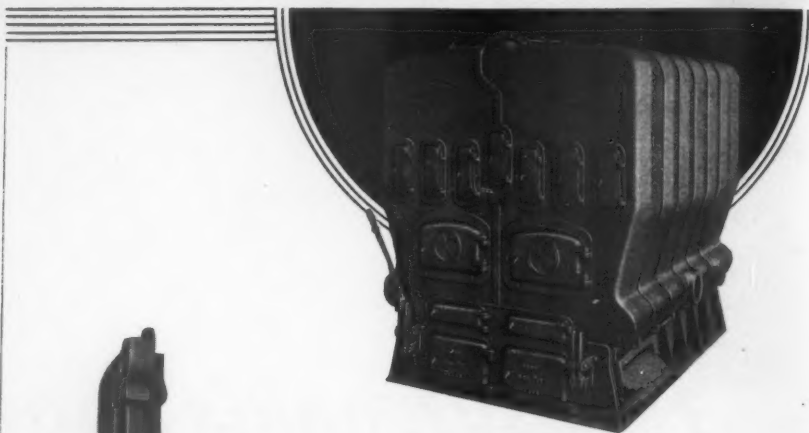
Pennsylvania Transformer Company

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PITTSBURGH, PA.



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This Big Twin Burnham Never Costs a Cent For Retubing

It is a cast iron twin section boiler used extensively for replacements.

It can be installed without the least tearing out of building. Sections can be passed through any average size door.

Has a three times back and forth fire travel. That long travel makes its short fuel bill.

Works admirably with hand or stoker firing. Gives a good account of itself with gas.

Made in 18 sizes, with capacities from 7850 to 22390 sq. ft.

Send for catalog. Get the full facts. See for yourself.

Burnham Boiler Corporation

Irvington, New York

Zanesville, Ohio

Representatives in All Principal Cities in the United States and Canada

PERMAFLECTOR LUSTROLIER

No. 5100

Lustrolier No. 5100 is designed particularly for the lighting of department stores, especially the main floor where the majority of customers are received and receive their first impression of a wide variety of merchandise.

BEFORE

The Northtown store of Wieboldt Stores, Inc., Chicago, showing the lighting from the old style glaring direct lighting fixtures



Every live up-to-date merchant recognizes that good lighting is his most effective salesman. It is a well known axiom that "Merchandise well displayed is half sold." With this thought in mind, thousands of merchants all over the country are modernizing their stores and good illumination should be their first step in this process.

Permaflexor Lustrolier No. 5100 is the answer to the modern merchant's illumination problem. Predominantly an indirect lighting fixture, it also has a low direct lighting component transmitted through a large stippled heat resisting glass roundel in the bottom member.

Equipped for use with 750, 1000, or 1500 watt lamp,

Lustrolier No. 5100 offers the public utility a lighting fixture which not only gets business, but builds up the lighting load. Recommend Lustrolier No. 5100 for the modernization of department stores.

AFTER

The same store after installing Lustroliers No. 5100. Note the absence of glare and sharp shadows, but in their place soft evenly diffused illumination



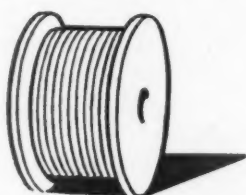
PITTSBURGH REFLECTOR COMPANY

OLIVER BUILDING



PITTSBURGH, PA.

A · C · S · R



● Minimum maintenance is an outstanding characteristic of A. C. S. R. One reason is that arcs are unstable on Aluminum and the Aluminum surface protects the high strength steel core. Aluminum Company of America, 2134 Gulf Bldg., Pittsburgh, Pa.

ALCOA · ALUMINUM



WHEN OTHERS FAIL . . . Specify A Kisco Automatic Flueless Gas Boiler



No Flues To Leak or Replace

• This boiler was designed not only to raise steam quicker, but also to develop a steady volume of steam. It is considerably more than merely a flash boiler.

There's a difference between Heating Surface and Effective Heating Surface—and that is why Kisco Automatic Flueless Gas Boilers are replacing other types in plants and shops. This boiler was designed by Kisco Engineers and is built in the Kisco factory.

Heat losses are eliminated by the insulated casing into which the boiler is assembled. You use gas to produce steam. Why waste it through radiation loss!

Kisco Gas Boilers Fulfill The Demand . . .

For Service, Efficiency, Economy, Durability

Kisco Automatic Flueless Gas Boilers are furnished complete with all fixtures and fittings, including an automatic gas regulator. The Kisco Automatic Water Feeder is included at only a small additional cost. By All Means, INVESTIGATE this boiler. Specify Bulletin P.U. 9-1.

Also Investigate The Kisco Water Regulators And Feeders!

KISCO BOILER & ENGINEERING CO.

4333-35 DUNCAN AVE.



ST. LOUIS, MO.

DESIGNERS AND MANUFACTURERS OF BOILER ROOM EQUIPMENT

Make Use of the Industrial Experience of **INTERNATIONAL HARVESTER** When There's a Power Problem to be Solved



International Model TA-40 TracTracTor working on the natural gas pipe line laid near Mazon, Ill.

Before long the *Millionth* Tractor of International Harvester manufacture will be coming off the assembly lines and going out to handle somebody's power job. That's by long odds the biggest tractor-production figure in the industry. It is also a measure of our thirty-year experience in this field—experience which will be of value to you when you have a power problem to handle

and need efficiency and economy on the job.

If your work calls for powerful crawler or wheel tractors, small tractors for cramped areas, fixed power units, small engines, or motor trucks—call on a Company-owned branch or authorized industrial dealer in the International Harvester sales-service organization.

INTERNATIONAL HARVESTER COMPANY
(Incorporated)

606 So. Michigan Avenue

Chicago, Illinois

INTERNATIONAL HARVESTER

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Speedmaster

ELECTRIC TEA KETTLE



Increases Electric Range Sales

Housewives acclaim the Speedmaster as the ideal accessory to the electric range. With the Speedmaster, water can be heated rapidly—two pints to the boiling point in $5\frac{1}{2}$ minutes.

It combines streamline speed with utmost economy. Savings of up to 40% in current con-

sumption, as compared to heating water on an open range unit, are reported. And while heating water with a Speedmaster, all units on the range are available for meal preparation.

Other economy and convenience features are just as appealing to range owners and prospects.

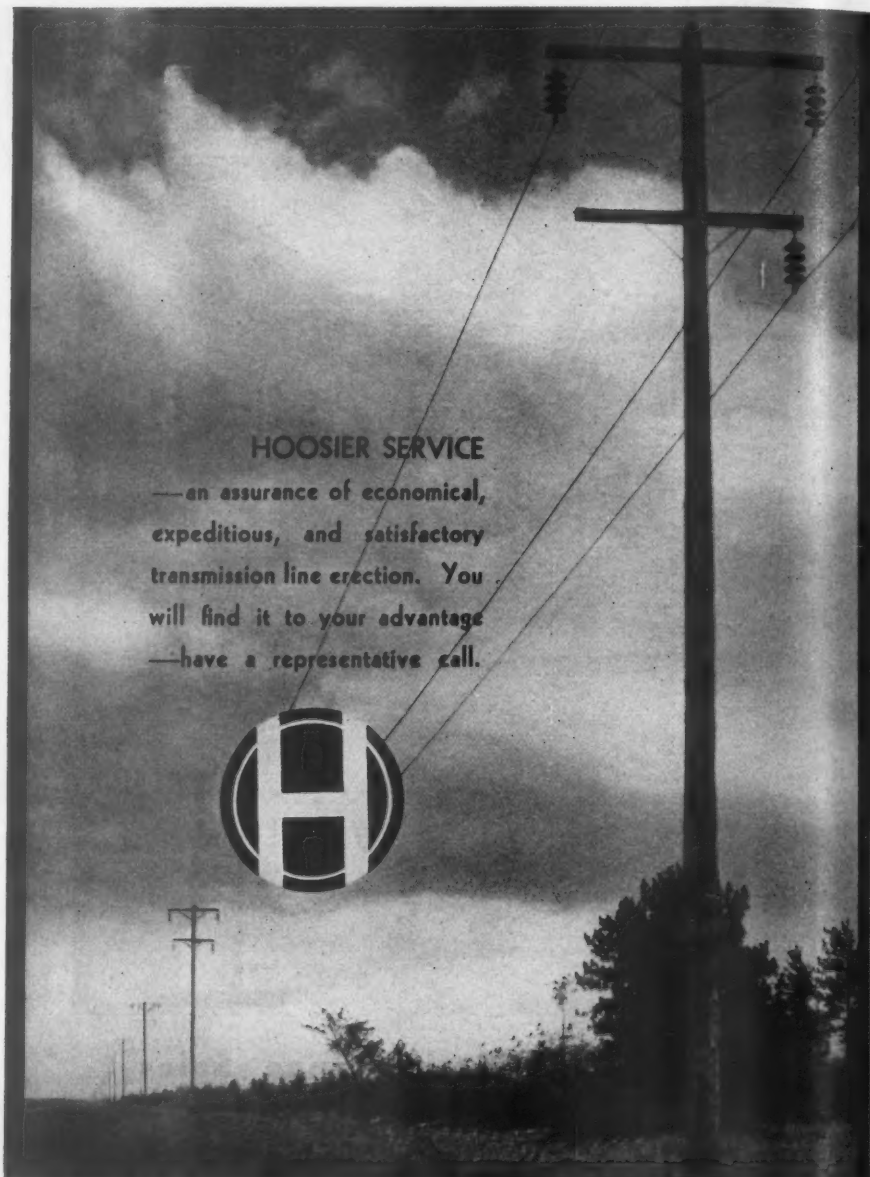
Write for complete information and bulletins!

WEST BEND ALUMINUM COMPANY

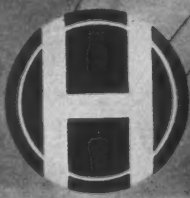
Dept. 669

West Bend, Wisconsin

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HOOSIER SERVICE
—an assurance of economical,
expeditious, and satisfactory
transmission line erection. You
will find it to your advantage
—have a representative call.



HOOSIER ENGINEERING COMPANY

ERECTORS OF TRANSMISSION LINES

CHICAGO

46 SO. 5th ST., COLUMBUS, OHIO

NEW YORK

Canadian Hoosier Engineering Company, Ltd., Montreal

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THE SILENT GUARDIAN

OF YOUR REVENUE

Twenty-four hours a day, month in and month out, year after year, the gas meter acts as your silent representative on the premises of your customers. Set in some dark corner of a cellar, under porches or other out-of-the-way spots, the meters in your distribution system quietly and unobtrusively go about their task of recording the gas service delivered by you. Without them your operations would be paralyzed, your revenue jeopardized and probably your public relations strained to the breaking point.

For so vital a unit in the operation of any system, gas meters are accepted with a surprising matter-of-factness by many operating heads. Among some it is a common fallacy that "all tin meters are alike," probably due to the similarity of their exterior appearance. But experienced metermen, those whose job it is to keep them in condition, know that there is a marked difference in meters and welcome the proven advantages found in EMCOs—economy in service due to long life, plus maintained accuracy.

EMCO TIN METERS

PITTSBURGH EQUITABLE METER CO.
MERCO NORDSTROM VALVE CO.

MAIN OFFICES PITTSBURGH, PA.

ATLANTA
NEW YORK

BUFFALO

COLUMBIA

KANSAS CITY

PHILADELPHIA

TULSA

HOUSTON

LOS ANGELES

MEMPHIS
OAKLAND

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FOR DEVELOPMENTS IN ACID RESISTANCE

Consult YOUR *ARCO* Library OF Maintenance Paints

ALERT Engineering and Purchasing Departments are invited to send for this essential library of Maintenance data...including (1) Up-to-The-Minute Releases from the ARCO Research laboratories; (2) Cumulative development, in ready reference form, of 57 years' experience in formulating maintenance paints for Public utilities. Address: Department F, THE ARCO COMPANY... CLEVELAND or LOS ANGELES.





Throw Your Voice to the AUDITOR

Here is a trick . . . and it is not ventriloquism . . . that busy executives are doing dozens of times every day and it saves time, money and nerves.

You merely flick a key and talk. Instantly your voice, *broadcast* through the super-sensitive microphone or *whispered* in privacy through the special hand set, is heard in the Auditor's Dept., Engineering Dept., Operating Dept.—in any part of the organization selected by your forefinger.

Telematic is the name of this ingenious instant system of *intracommunication*. It has no connection with your regular telephone switchboard. Hence it does not stop outside calls or clog inside lines. Telematic provides instant contact between departments for any information required during telephone conversations.

Numbering among the thousands of TELEMATIC users are New York Edison Co., Kansas City Power & Light, Public Service of N. J., Columbus Street Railway Power & Light, and many others. The coupon below makes it easy for you to secure the names of users in your locality so that you can check their experience and satisfaction with Telematic.

Or, if you prefer, check the coupon to indicate that you would like a Hearing-Is-Believing demonstration right in your office. No obligation, of course.

TELEMATIC

DICTOGRAPH PRODUCTS CO. Inc.

580 FIFTH AVE.

NEW YORK CITY

Branches in all Principal Cities

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☐ Local Telematic Users

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Name

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STREAMLINED TO CUT DOWN SALES RESISTANCE

ESTATE GAS RANGES



ESTATE designers did more than streamline beauty into these super-smart, super-modern gas ranges. Working with Estate engineers, they streamlined Estate Gas Ranges against sales resistance by building into them outstanding advantages which appeal immediately to a woman's buying sense. Result: Record breaking sales for Estate Gas Ranges in 1936.

Smart merchandisers, realizing what they have in the Estate line, are pushing it—and going places at high speed.

THE ESTATE STOVE CO. - HAMILTON, OHIO

APPROVED BY



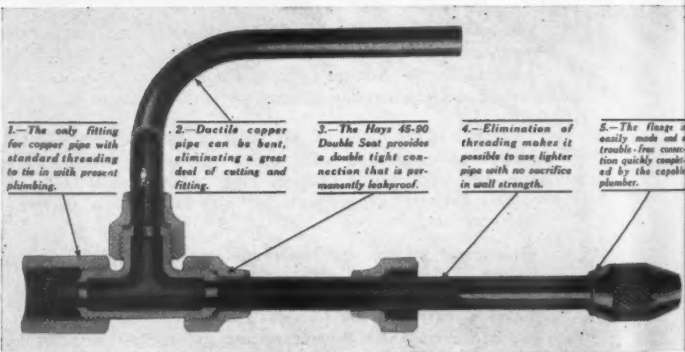
1.—The only fitting for copper pipe with standard threading to fit in with present plumbing.

2.—Ductile copper pipe can be bent, eliminating a great deal of cutting and fitting.

3.—The Hays 45-90 Double Seal provides a double tight connection that is permanently leakproof.

4.—Elimination of threading makes it possible to use lighter pipe with no sacrifice in wall strength.

5.—The flange is easily made and a trouble-free connection quickly completed by the capable plumber.



More than 400 STYLES and SIZES of DOUBLE SEALS to select from . . .

A close study of the illustration will suggest scores of uses in your plant for the Hays Copper Plumbing Method. The heart of the method is of course, the Double Seal fitting, of which there are over 400 Styles and Sizes. Hook up new appliances; make plant piping repairs and install service lines for water or gas with the Hays Copper Method.

Double Seals are used to pipe water, gas, gasoline, oil, air and many chemicals. It is the only method that ties in 100% with Iron pipe. Write today for complete details.

HAYS MANUFACTURING CO.

ERIE, PA.

UNDERWRITERS'
LABORATORIES

Specify **HAYS DOUBLE SEALS**



The PECK CARRIER

● Over 600 power plants, some of them among the country's largest, have been equipped with the Peck Overlapping Pivoted Bucket Carrier.

By means of a single Peck Carrier in the power plant, four separate conveying functions are performed. These include the necessary elevation of the coal, carrying the coal horizontally for distribution to the bunkers, carrying ashes horizontally away from the ash pits, and the elevation of the ashes for disposition. And these four functions are performed not only in the simplest possible manner, but quietly, with a minimum initial cost of installation, power consumption, and maintenance expense.

However, whether or not the Peck Carrier would be the best solution of your problems, depends upon conditions.

Manufacturing ALL types of power plant equipment, Link-Belt engineers are free to give unbiased counsel regarding the right solution of your coal-and-ashes handling problem. They recommend the **NATURAL** solution of the problem, that is dictated by the conditions.

Send for catalog. Address Link-Belt Company, Chicago, Philadelphia, Indianapolis, Atlanta, San Francisco, Toronto, or any of our offices, located in principal cities. 5751

LINK-BELT

COAL AND ASHES HANDLING EQUIPMENT

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L & H
Electric
RANGES

• Exclusive Time-a-ture combines automatic time and temperature control. Two appliance outlets . . warming drawer unit. Lustrous porcelain enamel finish . . sparkling chrome trim. Wire or write for complete facts.

**A. J. LINDEMANN &
HOVERSON CO.**

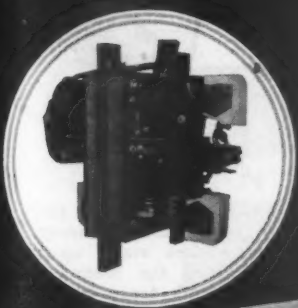
Milwaukee, Wisconsin
New York Chicago San Francisco



Reserved for a
MSA Advertiser

Simplicity

THE KEYNOTE OF BR BOOSTERS



OTHER POINTS OF *Simplicity*

- 1 Control Box arranged for bolting to the booster tank, or for separate mounting away from the booster.
- 2 Control Panel with all relays can be removed easily from the weatherproof control box for laboratory adjustment.
- 3 Safety Switch for disconnecting control relays.
- 4 Time Delay in all positions to prevent needless operations.
- 5 Diagram Nameplate.

● There is nothing complex about Westinghouse BR Feeder-Voltage Boosters. Every part has been designed to attain the simplicity that reduces maintenance to the minimum and makes inspection as easy as possible.

In keeping with this spirit, simple magnetic-operated contactors are used for changing taps. No gears, motor, limit switches, or other similar devices are used. These contactors have both front and back contacts made of heat-resisting material to withstand all normal arcing and are submerged in oil to assure long life. To make them easily accessible for inspection and maintenance, they are mounted in a separate compartment at the top of the tank.

Ask for BR Booster Catalog 47-225, Room 5-N, East Pittsburgh, Penna.

J 70023



Westinghouse



No weak spots for corrosion to attack—The Bethanized Wire can be wrapped around its own diameter without breaking or flaking its corrosion-defying zinc coating.

**Now—at no extra cost
CHAIN LINK FENCE THAT CAN**

STAND THE WRAP!



Here are the quick facts. Unlike other chain link wire, the zinc coating on Bethanized Wire is chemically pure—free from any vulnerable iron content. It is smooth and uniform—free from rough or thin spots. And it is extremely ductile—not hard, brittle and flaky. Twist the wire, bend it double, wrap it around itself—you just can't break the zinc coating and expose the steel core to corrosion.

Think what that means. An Anchor Fence of Bethanized Wire is a fence with no flaws in its pure zinc armor—no cracks or crevices through which

corrosion can creep in. Because Bethanized Wire can "stand the wrap," these Anchor Fences stand up for many years beyond the lifetime of any other chain link fence—even in industrial atmospheres that are heavy with soot, salt, sulphur and other corroding agents. And now there's no premium—no extra cost—for Bethanized Wire.

Send for the free book of facts about these better looking, longer lasting Anchor Fences—and about Anchor's nationwide sales and erecting service. Write today—to the address below.

ANCHOR Fences OF **BETHANIZED WIRE**

ANCHOR POST FENCE COMPANY, 6630 EASTERN AVENUE, BALTIMORE, MARYLAND

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DAVEY LINE CLEARING SERVICE

Economical Line Clearing

BUYING LINE CLEARING to keep your wires comfortably free from tree interference is in some ways a good deal like buying a suit of clothes. If you shop around, you can get a suit of clothes for about \$12.50, or you can pay \$45.00, or you can pay one hundred dollars, or more. Now, for most folks a suit of clothes costing in the neighborhood of one hundred dollars is, of course, rank extravagance. But a too cheap suit is a wasteful investment, too.

You can buy tree trimming that is too cheap. You can buy tree trimming that is too expensive. The right price is at the point where you get the most value and the most quantity of each dollar that you pay. It is at that point that we have tried to fix the price of Davey line clearing service. We think that we have hit it.

THE DAVEY TREE EXPERT CO.,

Kent, Ohio

DAVEY TREE SURGEONS

PIPE STOPPERS



All Types

PIPE LINE SUPPLIES

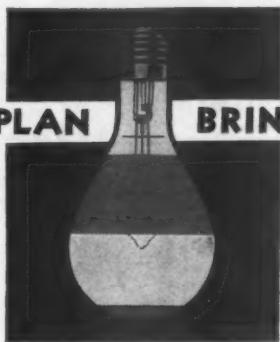
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Goodman Cylindrical Stoppers
Bags—Rubber, Canvas Covered
Plugs, Service & Expansion
Pumps
Masks
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Catalogue mailed on request.

SAFETY GAS MAIN STOPPER CO.

523 Atlantic Avenue
Brooklyn, New York

NO OTHER PLAN BRINGS SO MUCH RETURN AT SO LITTLE COST



Silvray "Multiplex" Processing applied to your present street lighting lamps controls and directs the light rays toward the street surface without the use of other light-directing medium. Adapted to existing street lighting luminaires it increases the effective illumination from 30 to 50 per cent. The reflecting medium is electrolytically deposited and hermetically sealed to the outside surface of the lamp bulb itself and hence cannot be dimmed by dirt, dust or moisture.

An increased commercial load and improved public relations are the Utility's double reward wherever Silvray "Multiplex" Processing is adopted for street lighting. Yet the cost of this plan is only about 10 per cent of the annual street lighting revenue!

Wherever tried, improvement in effective street illumination has been found to increase the business of the community (people shop more on well-lighted streets) . . . has increased per capita wealth . . . has encouraged better lighted stores and store windows—materially building the commercial load. And, meeting the demand for better lighted streets, has increased public confidence in, and goodwill toward the Utility.

Silvray "Multiplex" Processing can do all this for you!

May we send you details . . . or have one of our Engineers talk to you about a survey or recommendations?

AMERICAN STREET ILLUMINATING COMPANY

"Backed by 58 Years' Street Lighting Experience"

361 NORTH BROAD STREET

PHILADELPHIA, PA.

CONDENSING EQUIPMENTS

Thousands of C. H. Wheeler installations testify to the value of condenser specialization.

Turbine Efficiency depends directly on Condenser Efficiency.

In all cases we build the machines to fit the particular conditions of the plants in which they go.

C. H. WHEELER MFG. CO.

19th St., Lehigh & Sedgley Aves.,
Philadelphia, Pa.

C. H. WHEELER OF PHILADELPHIA



Now Ready USALITE "INDUSTRIAL CELLS"

To give you far more dependable service than you ever had before—the No. 1095 USALITE Industrial Cell.

Bureau of Standards specifications call for 400 minutes to a 0.9 volt cut-off. No. 1095 will give over 80% of its service above the 1 volt cut-off—more than double the specifications of U. S. B. O. S.

"25 years of knowing how" is back of the dependability of USALITE Products, laboratory tested and inspected. Expert supervision assure longer life and uniform quality. 1095 USALITE has captured the demand of Railroads, Chemical, Powder, Oil and Gas Companies, Utilities and Coal mines everywhere.

We'll be glad to send you FREE samples of 1095 cell for inspection and trial tests. Write today!

UNITED STATES ELECTRIC MFG. CORP.

222 West 14th St. New York
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VULCAN
SOOT BLOWERS

*Durable
Dependable
Service*

VULCAN SOOT BLOWER CORPORATION
Du Bois *Pennsylvania*

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2

IN EVER-WIDENING CIRCLES

LIKE a stone dropped into quiet waters, every new use for electric service develops its ever-widening circle of influence. It projects its effect to every corner of the country, and it always results in a growing market for electric power—more load and more revenue for every power company.

For many years, General Electric has been developing new uses and improved applications for electric power. Here are a few examples: The high-speed Calrod range unit and the *hermetically sealed* refrigerator that have not only accelerated the demand for electricity in the home, but have by themselves in six years added more than a billion kilowatt-hours to power-company lines. G-E developments of high-power vacuum tubes made possible radio broadcasting with its resultant demand for millions of radio receivers.

Resistance welding and a hundred applications of electric heat in industry have, in G-E equipment alone, added nearly a billion kilowatt-hours since 1929. And we ask you to make your own estimate of the value to you of the many G-E developments in lamps and of the new sodium and high-visibility luminaires for highway lighting that are the beginning of new and greater opportunities.

General Electric's ability to continue the development of new equipment—new uses that open up ever-widening markets for electricity—depends of course upon orders. We look to your industry—our largest volume customer—for this kind of encouragement. That you benefit directly through increased load and revenue is just one of many important reasons why your most profitable purchases are made from General Electric

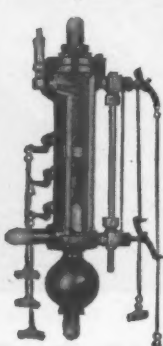
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GENERAL  **ELECTRIC**

BOILER SAFETY BOILER SAFETY BOILER SAFETY

AVOID BOILER ACCIDENTS!

Power Engineers operating more than
130,000 boilers have—and they can
depend on Reliance Alarms



●
**SIMPLE
TROUBLE-PROOF
MECHANISM**

●
**INSTANTANEOUS
ACTION**

●

So basically right is the positive mechanical design of the Reliance Safety Water Column that neither we nor anyone else has ever been able to devise a quicker or more certain high and low water boiler alarm.

But we have made constant improvements in details and metals. Floats, for instance, are made of monel and so strong and buoyant that we guarantee them unsinkable in their service.

The fact that in over 50 years no Reliance Column has been known to fail in an emergency is some indication of the confidence you may have in them on your boilers.

●

The Reliance Gauge Column Co.
5930 Carnegie Avenue
Cleveland, Ohio

Reliance

SAFETY WATER COLUMNS

See our Exhibit at the Twelfth National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, November 30 to December 5, 1936.

The Trend to Dictaphone Sweeps On

To your secretary, it means all that note-taking time is released for valuable work. To you, it means instant dictation facilities always available, without dependence on anybody else. That's why we say this modern dictating instrument doubles your ability to get things done.

DICTAPHONE

Sales Corporation

420 Lexington Avenue
New York City

Star Brass Manufacturing Co.

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BOSTON, MASS.

Makers of Highest Quality
"Non-Corrosive" Pressure and Vacuum Gages—Safety and Relief Valves—Globe, Angle and Gate Valves—Water Gages—Gage Cocks Whistles



New York
Pittsburgh
Chicago
San Francisco
Buffalo
Cleveland
St. Louis
Shreveport, La.



*It's easier to sell the
radio equipped with
nationally-known tubes*

—just as **IT'S EASIER TO SELL
THE RANGE EQUIPPED WITH
NATIONALLY-ADVERTISED,
NATIONALLY-KNOWN
ROBERTSHAW
OVEN-HEAT-CONTROL**

Nationally Advertised - Known to Women

Link a famous name with a famous name, and sales for the product are made easier, quicker, smoother.

Robertshaw speeds the sales of modern gas ranges because its oven-heat-control is known to every woman.

Once a woman hears that the range is Robertshaw-equipped, she knows she is buying a combination of the best in modern cookery. She knows that her range selection is a wise one. The name Robertshaw will help you to sell ranges because it is a nationally-known name.

ROBERTSHAW THERMOSTAT COMPANY, YOUNGWOOD, PENNA.



Sell the ranges equipped with

ROBERTSHAW OVEN-HEAT-CONTROL
MORE THAN 2,500,000 IN USE

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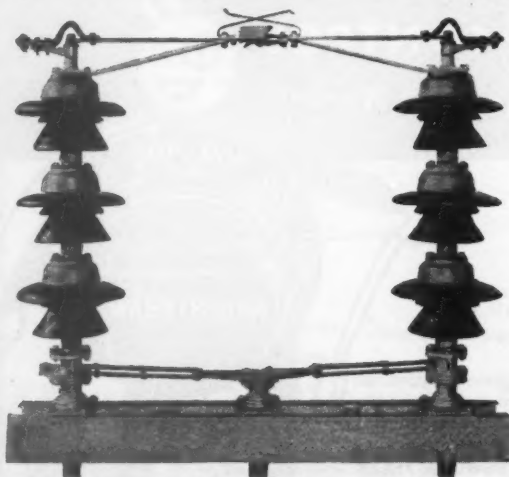
Sangamo Meter in "A" and "S" Mounting

Sangamo modern meters, whether singlephase watthour meters—combination singlephase watthour meters and time switches, with either single or two-rate registers—or two-element watthour meters—all are designed for modern "A" and "S" mounting.

Modern Meters for Modern Loads

SANGAMO ELECTRIC COMPANY

SPRINGFIELD, ILLINOIS



TYPE "PM-23" 115/132-S K. V. 600 AMPERE

HORIZONTAL Center-Break Switches 7.5 to 161 K. V.

(ASK FOR BULLETIN 36-F)

SOUND REASONS must exist for continued demand on the part of operating men whose repeat orders prove their confidence in Types "PM-22" and "PM-23" Horizontal Center-Break Switches.

PERFORMANCE

Load-breaking ability compares favorably with vertical-break types or horizontal double-break switches. This is due to the speed at which a wide gap is attained, carrying the arc away from insulators and forcing it into a field of fresh, non-ionized air.

Delta-Star  **Electric Co.**

2400 BLOCK, FULTON STREET, CHICAGO, ILL.

No. 9 of a series of messages to Public Utility executives pointing out opportunities for load-building by promoting the use of electric arc welding.

Sow the arc welding seed!

K.W.H. K.W.H. K.W.H.

It grows and grows and grows!

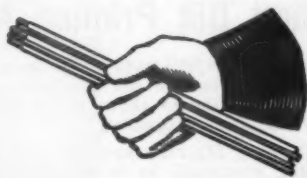
Free Instruction for Power Salesmen

In several cities, the local Lincoln engineers are contributing their services to the instruction of power salesmen, periodically, in the various phases of arc welding application. These blackboard talks give the salesmen sufficient knowledge of arc welding so that they can discuss it intelligently with prospects. Are you interested in securing this service? Just get in touch with our main office in Cleveland, Ohio.

Your power meters are in fertile revenue-producing soil when they're hooked up to arc welding users.

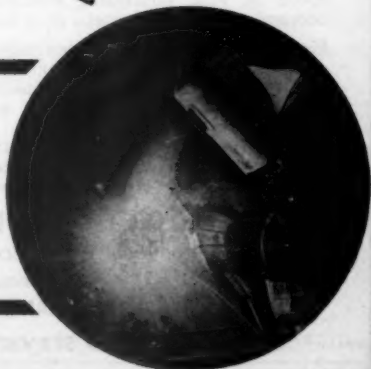
In the first place, with business on the up-grade, shops are using more and more welding arcs to keep in step with production requirements. In the second place, with the demand for lower costs, plants are devising new places to employ welding in the construction of their products and in the maintenance of their shop equipment.

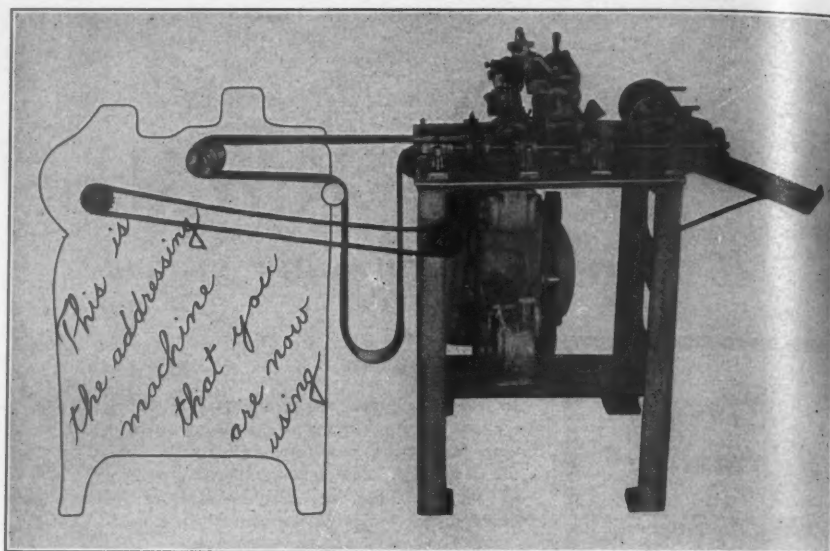
Why not plant and cultivate this valuable business? We can point out to you scores of industries on whom you may not be calling who NOW warrant your efforts. We are at your service! **THE LINCOLN ELECTRIC COMPANY**, Dept. YY-292, Cleveland, Ohio. Largest Manufacturers of Arc Welding Equipment in the World.



The average welder uses a pound of electrodes in 3 to 7 minutes. This requires 1.75 K.W.H.

LINCOLN





Here's a Bill Printing Machine that can be used with ANY Addressing Machine

Instead of continually paying money for pre-printed bills, convert your *present* addressing system into a *combination* printing and addressing system. You can readily do it with the

Elliott Bill Printing Machine

This machine will pull blank paper, from rolls, under the addressing head of your present addressing machine to receive the addresses. It will then continue feeding this paper through the printer (shown above at the right), where it is printed on the front and back, scored, dated and chopped off.

With the Elliott Bill Printing Machine you not only save on printing bills, but you speed up your addressing operation, as it is really an automatic feed through the addressing machine instead of a hand feed.

Here is something new, designed to bring the advantages of bill printing to those who do not desire to make extensive changes in their addressing system. The Elliott Bill Printing Machine can be used in conjunction with any model of any addressing machine now used for Utilities' billing and with any kind of an addressing medium.

Write NOW for details of this time and money saving combination. State what addressing machine you are now using, size of list, etc.

THE ELLIOTT ADDRESSING MACHINE COMPANY

Manufacturers of Hand and Electric Addressing Machines for Every Need and Purpose

INCORPORATED 1900 — RATED AAA1

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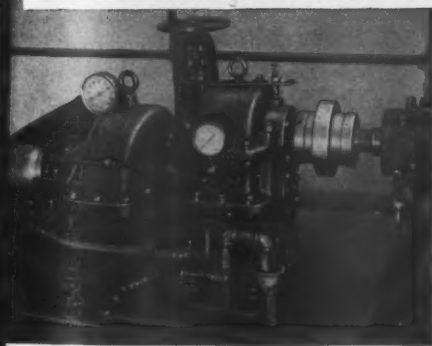
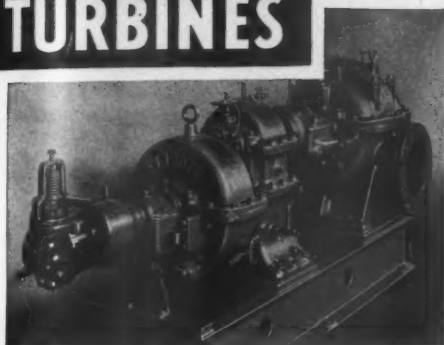
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Excellent performance insured by these features:

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Opening streets to reach leaking pipe—tearing up pavements to lay new line—filling and tamping—this is necessary labor that adds to the cost of the actual job. A Barco Portable Gasoline Hammer helps materially to reduce this expense.

Ample power—portability—effectiveness—economy in investment and operation—elimination of expensive auxiliary equipment. All these combined provide savings that are worth investigating.

Years of successful service.

Model H-5 for heavy duty, weight 89 pounds; Model J-1 for lighter work, weight 70 pounds.



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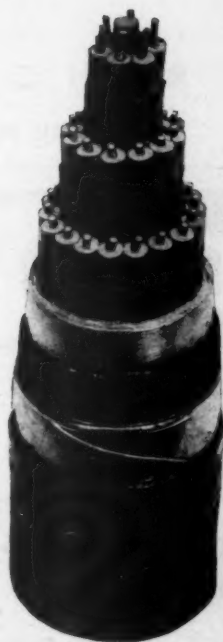
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Pictured here, the famous guaranteed foolproof Rotomatic Switch—exclusively a Ray-O-Vac feature.

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Let's look at the records...

The past is a clear picture—the present an open book—the future a lighted path—with Taylor Power Recorders. Use them to check waste and high power costs

WHAT happened last week—last month—yesterday? If temperature, or pressure, has any bearing on the matter, you can find out quickly from the accurate records written by Taylor Power Plant Recorders.

Through their charts these Recorders show past errors and guard today's revenue and profits against waste and high power costs. They are specially designed for use in helping you produce and supply power most economically and efficiently. They protect against temperature and pressure "leaks" that may be unsuspected or hidden now.

Taylor Recording Thermometers have modern refinements that assure greater accuracy and durability. With an improved mechanism they have maximum sensitivity and accuracy without sacrificing in any degree the life you should expect under severe conditions of service. They are constructed so as to serve efficiently and economically. Their accuracy saves money; their durability pays dividends.

Let a Taylor representative discuss any temperature problems with you, then put a Taylor Recorder to any test you wish. You will find that it measures up fully to your needs. That is what our tests show and what many plants have proved. For complete details on Taylor Recorders, write for a special Power Plant Catalog. Address, Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London.

Taylor

Indicating / Recording • Controlling

**TEMPERATURE, PRESSURE and
FLOW INSTRUMENTS**



Shows Taylor Recording Thermometer. For applications within minus 100° and plus 100° F. Fine-appearing, durable black finish. Face- or flush-mounted case. Dial-actuated case. Temperature recorder in three types—Mercury, Vapor, and Vapor-Actuated. Mercury type uses Taylor Automatic Taking designed to compensate for temperature changes through which tubing passes and to assure a reading of the correct bulb temperature.



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COMPLETE COMBUSTION

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AECO FURNACES

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*Economically
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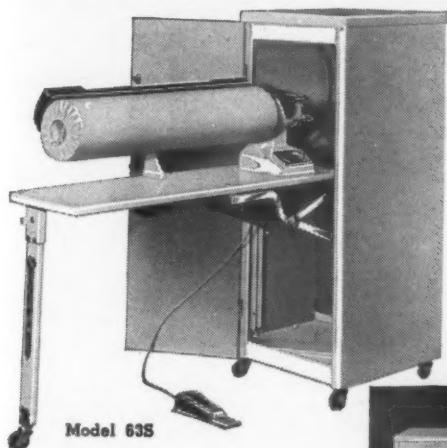


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FOLD-A-WAY

boosts sales of IRONERS and
current (1230 watts per hour)



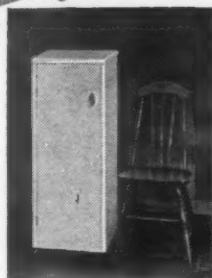
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*Economy of floor
space appeals
to housewives
everywhere*

Takes No More Floor Space Than Kitchen Chair

It's easier to sell what the housewife wants and cannot get in any other ironing machine. The Thor Fold-A-Way also gives her all three types of control—knee, foot and finger-tip. This patented space-saving construction gives the Thor dealer a powerful, exclusive merchandising advantage.

With only four per cent saturation, ironers afford a big, unworked field for merchandising profit. Find out how Thor's effective promotional helps and popular-priced rotary line are boosting ironer sales close to those on washers for many aggressive dealers. Send for all the facts today.



Balanced, easy lifting.
Shoe pulls up with
one finger. Self-lock-
ing, rigid, folding leg
and table.



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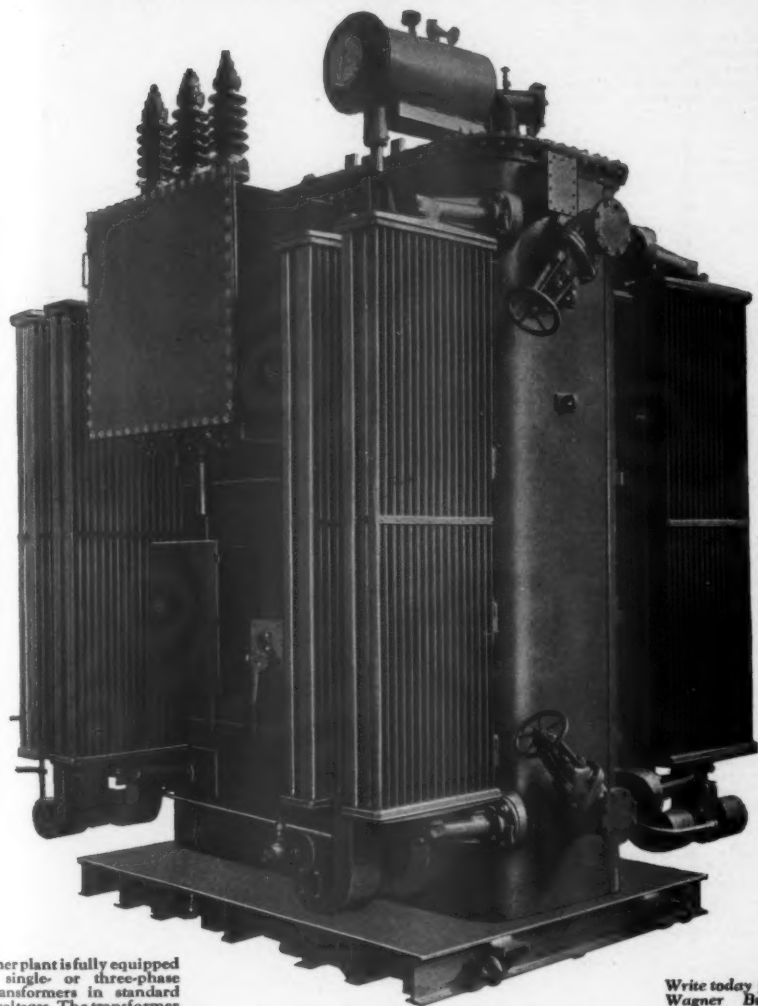
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HURLEY MACHINE COMPANY
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INDEX TO ADVERTISERS

A	
Addressograph-Multigraph Corporation	7
Aluminum Company of America	54
American Coach & Body Company, The	5
American Engineering Company	80
American Street Illuminating Company	67
Anchor Post Fence Company	66
Arco Company, The	60
B	
Babcock & Wilcox Company, The	Outside Back Cover
Barber Gas Burner Company, The	24
Barco Manufacturing Company	76
Black & Veatch, Consulting Engineers	85
Blaw-Knox Company	50
Buffalo Forge Company	40
Burnham Boiler Corporation	52
Burroughs Adding Machine Company	13
C	
Carter, Earl L., Consulting Engineer	85
Chapman Valve Manufacturing Company, The	36
Cheney, Edward J., Engineer	85
Chevrolet Motor Company	29
Cities Service Company	48
Collier, Barron G., Inc.	95
Combustion Engineering Company, Inc.	15
Connelly Iron Sponge & Governor Company	44
Copperweld Steel Company	38
Coxhead, Ralph C., Corporation	78
Crescent Insulated Wire & Cable Company, Inc.	77
D	
Davey Tree Expert Company, The	67
Delta-Star Electric Company	72
Dennison Manufacturing Company	30
Dictaphone Sales Corporation	70
Dictograph Products Company, Inc.	61
Ditto, Inc.	23
E	
Electric Storage Battery Company, The	16
Elliott Addressing Machine Company, The	74
Elliott Company	75
Estate Stove Company, The	62
F	
Ford, Bacon & Davis, Inc., Engineers	85
Forest City Foundries Company, The	19
Frigidaire Corporation	25
G	
General Electric Company	69
Golden-Anderson Valve Specialty Company	16
Goodrich, B. F., Company, The	3
Grand Rapids Loose Leaf Binder Company	24
Grinnell Company, Inc.	43
H	
Hammermill Paper Company	33
Hays Manufacturing Company	62
Hoosier Engineering Company	58
Hurley Machine Company	81
Hygrade Sylvania Corporation	20
I	
Isco Copper Tube & Products, Inc.	44
International Business Machines Corporation	37
International Harvester Company, Inc.	56
I-T-E Circuit Breaker Company	11
J	
Jackson & Moreland, Engineers	85
Jensen, Bowen & Farrell, Engineers	85
Johnston & Jennings Company, The	44

(Concluded on Page 84)

POWER TRANSFORMERS



The Wagner plant is fully equipped to build single- or three-phase power transformers in standard sizes and voltages. The transformer here illustrated is a 12,000-kva, 34,500-volt delta to 4500-volt Y, three-phase air-blast power transformer fully equipped with the latest relay and control devices.

Write today for the new Wagner Bulletin 181 which completely describes Wagner power transformers.

Wagner Electric Corporation

6400 Plymouth Avenue, Saint Louis, U.S.A.

TP236-1BA

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INDEX TO ADVERTISERS (Concluded)

K	
Kerite Insulated Wire & Cable Company, Inc., The	35
Ketchum, MacLeod & Grove, Inc.	Inside Back Cover
Kinnear Manufacturing Company, The	27
Kisco Boiler & Engineering Company	55
Klein, Mathias & Sons	16
L	
Lincoln Electric Company, The	73
Lindemann, A. J. & Hoverson Company	64
Link-Belt Company	63
M	
Mercold Corporation, The	49
Monroe Calculating Machine Company, Inc.	28
N	
National Carbon Company, Inc.	31
National Electric Products Corporation	46
Neptune Meter Company	86
O	
Owens-Illinois Glass Company	22
P	
Pennsylvania Transformer Company	51
Pittsburgh Equitable Meter Company	59
Pittsburgh Plate Glass Company	21
Pittsburgh Reflector Company	53
Power Transmission Council	34
Pyrene Manufacturing Company	18
R	
Ray-O-Vac Company	78
Reliance Gauge Column Company, The	70
Remington Rand, Inc.	9
Republic Steel Corporation	47
Ridge Tool Company, The	42
Riley Stoker Corporation	32
Robertshaw Thermostat Company	71
Royal Typewriter Company, Inc.	41
S	
Safety Equipment Service Company, The	26
Safety Gas Main Stopper Company	67
Sanderson & Porter, Engineers	85
Sangamo Electric Company	72
Sillex Company, The	Inside Front Cover
Simplex Valve & Meter Company	38
Socony-Vacuum Oil Company, The	45
Spooner & Merrill, Inc.	85
Star Brass Manufacturing Company	70
T	
Taylor Instrument Companies	79
Titan Valve & Manufacturing Company, The	39
Tropical Paint & Oil Company, The	17
U	
United States Electric Mfg. Corp.	68
V	
Vulcan Soot Blower Corporation	66
W	
Wagner Electric Corporation	83
Walker Electrical Company	38
West Bend Aluminum Company	57
Westinghouse Electric & Manufacturing Company	65
Wheeler, C. H., Manufacturing Company	68

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Nothing will do but complete precision in the production of Trident and Lambert Water Meters. This man is checking the production of the disc chamber, "the heart of the meter." Indicator gauges, accurate to the thousandth of an inch, check the fine work of the special lathes that turn each casting. Shoulder, ball-socket, angle and "sweep" are again gauged to preserve the high standard of precision that means the disc will run smoothly and with sustained accuracy for years.



quality Water Meters, their low maintenance cost—and the interchangeability of their precision-built parts. Think! A 20 or 30 year old Trident or Lambert can be fitted with new interchangeable parts in a matter of minutes . . . and investment depreciation is wiped out! We make a water meter for every type of service. . . . Quality meters that never will become obsolete . . . over 6 MILLION sold the world over. . . . Neptune Meter Company (Thomson Meter Corp.), 50 West 50th St. (Rockefeller Center), New York City . . . also . . . Neptune-National Meters, Ltd., Toronto, Canada.



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AND LAMBERT WATER METERS

» Pioneers in Meter Progress «

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THE COURT THAT IS SUPREME

THE court that really rules, the only court whose decisions are sure to stand, is the Court of Public Opinion. Because the court, functioning through legislative action, can and does create new law which measures the rulings of the courts of law.

Especially in the decision of industrial problems—labor relations, wages and hours, competitive conditions, taxes—the past few years have proven the supremacy of The Court of Public Opinion.

The industry or the corporation which bases its case upon legal action *alone* finds that no judicial decision in its favor settles the issue longer than the next action of the legislature (save of course

where constitutionality is involved). If the people of the state or of the nation are unconvinced as to the justice or the wisdom of its contention, their representatives will soon establish a new law or so change the old that the success in legal proceedings proves to have been but temporary.

The corporation or industry, therefore, which believes its cause sound and honorable, must present the case as clearly, as intelligently, as fully in the Court of Public Opinion as in the courts of law.

Victory in that Court of Public Opinion, which means victory in the minds of the citizens whose wishes ultimately rule, is a lasting triumph.

Public relations counsel cannot take the place of legal counsel. But it is just as essential to the corporation or industrial group striving under presentday conditions to protect the interest of its investors, the permanent welfare of its employees, its customers, its creditors.

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Since 1929, the Company has developed, or announced as available: new types of boilers, a new water-cooled furnace construction, a pulverizer of 50-tons capacity, new types of fuel-burning equipment, and many improvements made in its other products.

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